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EDITOR

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I

THE STRENGTH OF THE REPUBLIC[1]

We all believe in our form of government. In fact, we are intolerant believers in it. Every child learns to think that it is the best in the world, not only for us, but for all men. Every demagog learns to bellow forth from the cart tail his unlimited, unquestioning certainty of that superiority and universal applicability.

I am not here to dispute the belief—only to define the facts about it. If our form of government is the best, it cannot be so because it is the cheapest. On the contrary, it is one of the most expensive in the world; with more paid lawmakers than any other, higher salaries generally for subordinates (tho with very unworthy scrimping in some of the most important places like the judiciary), higher pay on government contracts, more lavish appropriations for internal improvements, and the costliest army in proportion to number and work. Our form of government cannot be the best because it is the most efficient. On the contrary, it is one of the slowest in the world; the most complicated, cumbrous, and limited. Our foreign representatives have been again and again humiliated by appeals from citizens abroad whom we could not or did not protect against impressment, with our passports in their hands, into the military service of other countries. Every few years we are all humiliated before the world because of riotous

[1] An address delivered in Carnegie Hall, Pittsburg, Pa., on Founder's Day, November 6, 1902

outrages on Italians, or on Chinese, or on other foreigners, which some State has not suppressed or atoned for, and the nation has no adequate control of. This very year there could be found for five months no power in the State of Pennslyvania or in the United States to stop disorder and riot in the coal mines, and finally that imperative work had to be done by voluntary effort outside the constitutional processes or authority of the high office that successfully intervened.

Even within the spheres in which it will work, our form of government is not the easiest to work. On the contrary, it requires, to keep it running successfully, more public spirit, more study about candidates, more time for multitudinous elections, local, State, and national; more watchfulness of public officials and a higher average of intelligence than any other in the world; and no one has ever shown that without this alert and devoted public spirit, this unremitting attention and this high average of intelligence, it could have achieved its best successes or could now maintain them. Some of our States repudiated their public obligations, and it took vehement and long-continued effort to get the disgraceful action reversed. The whole country was convulsed for years in the struggle to prevent payment of the national debt in a depreciated medium at half price. The greatest city on the continent fell under the almost absolute domination of a vulgar thief. We had to have years of strenuous exertion by the city's best men of all parties, thousands of speeches and ten thousands of columns of newspaper exposure—in fact, the whole community had to be laboriously worked up to a state of excitement bordering on hysteria or epilepsy to get that thief put in jail and his gang turned out of office. Even then, how long did the gang stay out?

The men who formed this complicated and delicately balanced government had no notion of the conceit prevailing nowadays about its universal applicability, or even about universal participation here in its conduct. In their day the idea that it could be applied to the so-called inferior races was foreign not only to their convictions, but even to their specula-

tions. They simply did not think of the notion, or fancy it worth talking about. They never dreamed of applying our form of government to the native races of America; and as to the blacks, they didn't imagine it needful to mention them as an exception—so unthinkable was it to the majority that the blacks should be included—when they solemnly declared that all men were born free and equal, and then went on calmly buying and selling slaves and enacting fugitive-slave laws just as usual. Not until 1865 was it even established thruout the United States that every man, black or white, has the right to sell his own labor; and in 1902, in your State and in mine, there were still found a great many persons, including a pitiful number of exceptionally ignorant or emotional clergymen, and some people called statesmen, who considered such a right on the part of some white men so doubtful that they were not ashamed to urge, for the sake of peace and coal, that it should be submitted to arbitration.

Well, in spite of these defects and limitations, this government of ours has, after all, accomplished in its short career a very respectable work in the world. The magnitude and myriad-sided development of this work have been recited by many an eloquent voice and pen, at home and abroad, tho nowhere more persuasively and effectively than by an old citizen of Pittsburg, in a book called *Triumphant democracy*. That clear eye saw and proclaimed the triumph sixteen years ago. Within only a year or two the whole world has come to recognize the young republic as the very Samson among the nations which Mr. Carnegie then depicted. But, if the things we have been saying are so, if they have any foundation whatever, if our government does in any measure have these defects, then the old question of the Philistines comes up with insistent force: "Wherein lies its great strength?"

To the answer to that question and the reasons for the answer I think it timely to ask your consideration. If our form of government is unusually expensive and dilatory and liable to go wrong without eternal vigilance and perpetual agitation; if it is often found so much worse than other forms

in executive efficiency, in economy, in promptness of action, and in continuity of policy, what makes it better?

The answer has become a truism. Its strength lies in the equality of man it develops. The real merit is not in the machinery, but in the skilled intelligence absolutely required to frame and to work it; in the combination of respect for authority on the one hand, with training in individual initiative on the other, which this work brings out and which the government has thus far scrupulously and religiously guarded.

We brought the respect for authority from the birthplace of the common law; and in proportion as harshness from its officers was resented in the old home, in like proportion the law itself was instinctively elevated into a veritable pillar of cloud by day and of fire by night in the wilderness of the New World. We found the individual initiative in the necessities of an untamed continent; were driven to it, shut up to it at every turn—in the imperative beginning of orderly self-government at a thousand isolated spots; in the long-protracted struggle with wild lands, wild beasts, and wild men,—till it became the inheritance of the race; till under its stimulus men found their solitary way thru trackless woods to make lonely clearings or start frontier settlements across the Alleghenies, thru trackless prairies to possess the Mississippi Valley, thru alkali deserts to wrest their gold from the mountains, and at last thru the Sierras to scatter up and down the enchanted shore of the Pacific. To such a continental conquest of nature and of men have those two traits of the Fathers brought us: their respect for authority and their widest freedom of individual initiative. These, with the original vigor of the stock, have made Americans what they are; and by consequence have made this blessed country of ours the joy and pride and hope of our lives. To harm either is criminal—whether to break down respect for authority by unlawful combinations, tricky evasions, and open defiance of order, or to cramp the widest freedom of the individual in any lawful enterprise or labor anywhere. Whoever or whatever now dares to interfere with the permanent union of these two

traits and their continued development in the American life, is an enemy to the republic—whether known as political boss, or as trust, or as trades union.

But let me not be misunderstood. Nobody can doubt the need in politics of appliances for finding and enforcing the will of the party majority. Nobody can question the economies and public benefits in business from great consolidations of capital. Nobody can deny the right of labor to combine for higher wages and shorter hours and healthful conditions of work. I mean no arraignment of organization itself, either in politics or finance or labor—only of that tyrannical organization, that unrepublican organization, that abandonment of the underlying essentials of democratic success and that reversion to the principles of an absolute monarchy or a military despotism, which refuses to recognize that it has reached the limits of its own right when it invades the rights of others, and so saps the very springs that have lifted us to this flood-tide of national prosperity. Indeed, instead of opposing, I appeal for organization, but only for organization of the kind which a distinguished ex-President of the United States once commended in a persuasive address on this very platform—the organization which seeks co-operation instead of the one that suppresses individual judgment and demands exclusive control; the organization which aims at the helpful union of men of like minds and interests, or the needful strength to meet competition, not at monopoly; which minds its own business, and is willing that whoever is not with it should have equal liberty, in this land of liberty, to do the same.

Such an organization does not exclude young lawyers from references unless they have made their peace with the men who nominated the judges. It does not keep all rising young men out of the public service unless pledged to support the bills the boss wants, and to protect or punish the corporations as he may direct. It does not evade State laws, circumvent national boards, and conceal its operations alike from the State that charters and the stockholders that support it, in efforts to monopolize business or to crush competition. It does not declare that nobody shall labor or sell the products of lawful

labor save on its terms or under its orders. It is co-operative and beneficent, not restrictive and monopolistic; it protects its own rights without harm to the rights of others, and instead of narrowing the doors to young men and checking aspiration, it maintains the old glory of the land, the freest opportunity for all, with hope of the richest rewards for the worthiest.

Such organization knows the spirit of this people and has learned the secret of their triumphs. It stimulates instead of checking the alertness, the ingenuity, the self-reliance, the independence, the courageous, indomitable ambition which from the very beginning in this land have created and compelled that individual initiative of which we have been speaking. In politics it does not crush, on the contrary, it welcomes the democratic spirit in party councils and the freest debate as the surest road to political harmony. In business it does not dread, on the contrary, it expects and prepares for competition; it does not resist and bewail, on the contrary, it rejoices in the power of growing capital, which is the offspring of intelligence and thrift, and the begetter of public prosperity. In the industrial world it does not degrade labor into a dull, mechanical level of limited and uniform production; on the contrary, it inspires the individual workman with the certainty of rewards in proportion to his skill and his right living. It preserves for all, in public life or in private, in the ranks of capital or of labor, the theory of our government from the beginning —not against classes, as the demagogs tell us, but against fixed classes; it maintains, as the priceless distinction of our social state, the fluidity and easy transfusion of classes, giving constantly to the intelligent and industrious in any one the hope of rising by their intelligence and industry to any other.

Years ago a laboring man on strike said to me: "There is no use any longer in talking to us about saving and rising out of our class; about ever becoming an employer and one's own master. That stage of the world has passed. I and my fellows must be day laborers to the end. We must fix our eyes solely on one thing, the day's wages, and make common cause, so that the slowest or poorest workman may be put to no disadvantage by the skill or industry of his fellows, in getting

bread for his children." It is the most dangerous delusion of the times, undermining the foundations alike of industrial progress and of public honesty; and its only logical outcome is either a permanent and unrepublican fixity of classes or the hopeless Dead Sea of socialism.

The same declaration about the impossibility of rising under existing conditions was heard in New York when a young boatman named Cornelius Vanderbilt was beginning to run a little ferry to Staten Island. It was heard in Washington when a young portrait painter named Morse was developing the telegraph. It was heard in my own calling when Bennett and Greeley and Raymond started, and heard again when they died. It was heard in Pittsburg when Andrew Carnegie was a messenger boy, and it was heard again when he retired to begin giving away his three or four hundred millions. But after Vanderbilt came Scott and Cassatt, Huntington, Morgan, Hill and Harriman; after Morse came Cyrus Field and Edison and Westinghouse and Bell and Marconi. The development of the newspapers did not stop with Bennett and Greeley and Raymond; the development of the iron industry has not been closed by the organization of the United States Steel Corporation, and Schwab is not the last day laborer to rise from the iron mills. The chances for the young man are and must be kept as good to-day as they ever were; in fact they are and must be made as much better as the scale on which this Western World is moving grows yearly and monthly more colossal. But now, as in all past times, with political managers or in spite of them, with trusts or in spite of them, with trades unions or in spite of them, the chances are to him that can see and seize them; the tools are to him that can use them. "A man's a man for a' that."

There was a clarifying expression in the report of proceedings here the day this Insitute was opened. Its founder said he heard a great deal about sympathy for the "submerged tenth"; but for his part his sympathy went out rather to the swimming tenth! An audience already used to his large methods was then startled at his further intimation that, besides what he had done and was doing here, he had in view

still other uses in this vicinity for surplus wealth. It has since been said that these additional plans look to technical or perhaps to technological schools. If the precise use is as yet undecided, it may be permissible to express the hope that this new provision will be for the swimming tenth.

The suggestion would not be ventured, however, were it not in line with the founder's expressed sympathy. This business of thrusting advice upon any great public benefactor is overdone, and it comes usually unasked from those whose advice is least worth having. A certain weariness grows on most people at seeing the frequent lectures from those who have nothing to give about how those who have something to give should give it. The longer one lives a self-respecting, industrious, frugal life, the less attention one is likely to pay to the thriftless and prodigal—especially when they set themselves up to tell the other class what they ought to do with their money. A man who is solemnly reminded from such a quarter that "wealth is a trust" may well be tempted to ask, "Why didn't you think of your own trusteeship then, instead of burying your talent in the ground?" and may even resent these instructions from the self-indulgent and extravagant as to how the self-denying and economical should bestow their accumulations.

Nevertheless the self-denying and economical do generally recognize that great prosperity opens great opportunities and devolves great duties. It is characteristic of the race that among us these opportunities and duties should be instinctively and almost universally sought in the service of God and the service of humanity, and the service of the two is really the same. But it is not always the service of God or of humanity to give help to people who want it. Often that does more harm than good; always it tends to breed a race of weaklings. Hercules refusing to help the carter who did not put his own shoulder to the wheel, and Carnegie, turning from the submerged tenth, to devise means for encouraging the swimming tenth, these are the ancient and modern expressions of the same eternal truths that, in this life at least, by works ye are saved, and he that will not work neither shall he eat.

Of the technological schools, which might have been in mind when the late promise was offered, the supply in this country now is considerable, and the scientific men trained in them already lead the chemical, engineering, and electrical progress of the world. But there could be at this moment no more auspicious aid to Pittsburg and to Pennsylvania than an abundance of schools in which any boy can learn a trade. None can withhold admiration from the magnificent work already done here by the founder of this Institute—where, indeed, over this land or over his native land has he not done it?—in bringing books within reach of those who would read. But the times are somewhat changed. When Mr. Carnegie was a poor boy on your streets it was hard to get books, and only too easy to be set to work at a trade. Now the poorest boy can buy a history of the United States for the price of a good cigar, and a Burns or a Shakspere for the common tip to a Pullman porter; while it is always a privilege and sometimes an impossibility for him to get a chance to acquire the commonest handicraft. What it was then to bring books within reach of those who would read, it is now to bring trades within reach of those who would work. It may sometimes be better for the poor lad that he should value his Burns or his Shakspere the more for having bought it himself; but it can never be to his advantage or that of the State that society should be an inactive witness when the door to self-respecting employment is of set purpose and on a set plan shut in his face. Great as is the well-earned fame for the princely generosity that dotted two lands with Carnegie libraries, it would be equaled or outshone by the luster surrounding the hand that in one direction, under national auspices, is already opening to men of the highest training the door for prolonged and the profoundest original investigation in any advanced field of science, while it simultaneously turns to the opposite end of the ladder and opens to the poor boys of to-day the door to learn anywhere any trade.

That, in fact, is the line along which the future of the republic may be safeguarded. It is to endure, if at all, because the latest generations hold fast to the faith and practice of the

Fathers, respect for authority and the widest liberty for individual activities. Mr. Dalzell once quoted to you very aptly the illuminating definition of Civilization given by a philosophic Frenchman. "It is," said M. Guizot, "the progress of society and the progress of the individual." But society cannot make progress without that respect for authority which is its corner stone; and the individual cannot make progress without that freedom of initiative which is the essence of liberty itself.

If society makes progress and the individual does not, you have the condition, not of the republic which, we fondly trust, is to endure forever, but of the despotism which we have hoped was passing away. Let us not lose our heads in the midst of our bewildering prosperity, and risk shipwreck by getting out of sight of the old landmarks. We are the oldest republic in the world (save those so small as to be negligible), but our years do not yet cover the span the Psalmist assigned to two human lives, while those of the monarchies and despotisms count by thousands. Other republics, long since passed away, have lasted as long as we, and borne for their time as great a sway in the world. Be not deceived. Strong as this republic is, it is not strong enough,—let us hope it will never be unjust enough,—to let either labor shut any of its children out of learning a trade or capital shut any of them out of going into trade. You cannot preserve the triumphant democracy and insure the American future unless you preserve the American citizen in his habit as he was, revering the law, respecting authority, and beyond that, still limited in his free activities by no master below God.

WHITELAW REID

NEW YORK

II

THE AMERICAN COLLEGE[1]

Somewhere in the neighborhood of 1820 the American college, as the term is traditionally used and popularly understood, came into existence. Before 1820 it would be difficult to distinguish the college, except perhaps in two or three instances, from the secondary school of familiar form to-day, the high school or academy. This college uniformly (so far as I know) gave a four-years' course of instruction in prescribed studies. The students came at the age of fifteen or sixteen and were graduated at nineteen or twenty. They were disciplined carefully in a narrow intellectual field, and it did most of them great good. They were obliged to do many things they did not like in ways not of their own choosing, and they gained in strength and fiber of character thereby. Ambitious boys who looked forward to law or theology, and often to medicine too, as a professional career, sought the college training and college association as a basis and groundwork for their later studies and their active careers. For the most part they acquitted themselves well, and the sort of training that the college gave commended itself to the intelligent people of the country. The nation was young and crude in those days, and it was pushing far out into new and unbroken territory. It had rivers to bridge, forests to hew, fields to clear and to sow, homes to build, States to found. That was a noble era of creative industry. Life was often hard and luxuries were few. Yet the college went wherever the population broke a way for it. Eleven colleges were founded before the Revolution, and 12 between 1783 and 1800; no fewer than 33 came into existence during the thirty years that followed, and 180 between 1830 and the close of the Civil War. Many of those founded before 1830 were in the newly broken territory. Two were in western Pennsylvania, 5 in Ohio, 3 in Kentucky,

[1] An Address delivered at Swarthmore College, November 14, 1902

1 in Tennessee, 1 in Indiana, 3 in Illinois, and 1 in Missouri. These colleges differed from each other in many ways, but they agreed in that they conferred one degree at the conclusion of the course, that of bachelor of arts, for substantially the same kind and amount of work. Post-graduate studies, so called, were almost or quite unknown, and the completion of a college course was the attainment of a liberal education, as the phrase goes. Judged by to-day's rigorous and exacting standards of scholarship, the graduates of these colleges did not know very much. Nevertheless, their minds were carefully trained by devoted teachers, sometimes men of rare genius and human insight, and they loved letters for their own sake. They grew in manhood and came out of the college halls full of ardor in the pursuit of high ideals.

It was this sort of institution which gave the American college its reputation and which put into the degree of A. B. the valued significance which it has now so largely lost. Latin, Greek, and mathematics were the only subjects a knowledge of which was required for entrance to this college. The Latin included grammar, four books of Cæsar's *Commentaries,* six books of Vergil's *Æneid,* and six orations of Cicero. The Greek included grammar, three books of Xenophon's *Anabasis*, and two of Homer's *Iliad.* The mathematics included arithmetic, a portion of plane geometry, and algebra as far as quadratic equations. These subjects the boy mastered in school or academy or by private tuition; everything else that he learned was in the college course. Many of the weaker and less fortunate colleges gave some, or nearly all even, of this instruction themselves.

The college course, properly so called, was made up of more Latin, Greek, and mathematics, some English literature and rhetoric, a little logic, a little political economy, a little moral philosophy, and, usually, a little mental philosophy or metaphysics. Occasionally chemistry crept in; more often a combination of mechanics and physics called natural philosophy. History, unless it was ancient history, played a small part, and the modern European languages were rarely included.

This institution, with the requirements for admission that I

have named, with the course of study that I have outlined, the students being (usually) from sixteen to twenty years of age, is the college which distinguishes the American educational system from that of Europe. The degree that it gave is the A. B. degree of the golden age to which one hears such continual harking back. What has become of this institution, the American college?

The college, or academical department, imbedded in the great universities of to-day, is the lineal descendant of the old college, but strangely unlike its ancestor. Even the separate and independent college—the small college, as it is called—is in many ways very different from the older institution of the same name. The changes and improvements of the past fifty years have removed many of the old educational landmarks and rearranged many of the old elements of secondary and collegiate instruction. To speak to-day in the terms of fifty years ago, without marking carefully the changes in the meaning of those terms, is to talk nonsense.

Almost the only colleges which retain the characteristics of the old, traditional type are those which have been without the means to respond favorably to the influences which have destroyed that type. The small college with low standards of admission to a four-years' course is closer to the American college of history and of rhetoric than is any other.

But if the old college itself has disappeared, the ideal for which it stood remains. That ideal was to train men roundly, thoroly, and well for manly and worthy living. Their spirits were to be furnished, not their pockets filled, by a course of study and training which fell just at the right period of their lives, and by close and intimate association with others having aims similar to their own. No purpose could be more lofty than this, none more practical among a democratic people.

What the old college used to do in four years to this end is now done in part by the new college and in part by the secondary school. Four years are still required to complete the traditional course of study in the liberal arts and sciences, but the whole four years are no longer passed under one institutional roof. Taking Columbia College (which I know best) as a

standard, one-half of the old college's work, measured in terms both of time and of content, is done by the secondary school and the results are tested by the college admission examination. This change has come about by the general raising of the requirements for admission, both in quantity and in quality, which has gone on at most colleges since 1860. These requirements for admission have been raised because the country has been better served by having the earlier part of the work formerly done in college transferred to the secondary schools. So transferred this work has been brought within the reach of tens of thousands of boys who could never have left home to get it, and who could never have entered upon a four-years' college course for lack of means. In 1898 only one-third of the nearly twenty thousand boys who were graduated from the public high schools looked forward to a course in a college or a scientific school, and only 7.18 per cent. of all the boys in the public high schools were preparing for a college course of the old type. If they had had to depend upon the college alone for their liberal studies, they would have known nothing of them. Moreover, secondary-school teaching nowadays compares very favorably with college teaching. The best secondary schools have scholarly teachers, well-finished libraries, and well-equipped laboratories that many a college might well envy. Some of the newer subjects are, on the whole, taught better in the high schools than in many colleges.

These are my reasons for believing that the change which has raised the requirements for admission to college is a good one and a permanent one.

While this change has been taking place, the colleges have for the most part drifted. Too few of them have followed clearly conceived and persistently executed policies. Most of them have been simply played upon by forces from without, and these forces have been received with varying degrees of stubbornness. Hence the chaos of standards and of degrees which exists at this moment. Where the requirements for admission have been raised since 1860 by two years of work and where the course of study in college is still four years

long, there is a six-years' course in the liberal arts and sciences in the place of the old four-years' course. Where the requirements for admission have been raised, and the years spent in college lessened by one, there is a five-years' course in the liberal arts and sciences in place of the old four-years' course. Where the requirements for admission have been raised and a four years' course in college maintained, one or two years of which are given to professional studies, there is left a four-year or a five-year course (as the case may be) in the liberal arts and sciences, and the degree of A. B. is no longer given wholly for work in arts, but for work partly in arts and partly in professional studies. In some cases the phrase liberal arts and sciences is interpreted broadly, in some narrowly. Often an attempt is made to distinguish between the older group of college studies and the newer ones, and degrees of bachelor of letters, science, and philosophy have been introduced to mark the completion of the courses other than the traditional one.

Some or all of these changes and developments may be decided improvements upon the older order of things, but the point I wish to make is that the results are not colleges or college courses as those words were once used. Discussions of the new in terms of the old are futile and misleading unless the terms employed are carefully distinguished and defined. In current discussions and debates about the place and value of the college there is easily noticeable a good deal of unconscious juggling with words and an equally noticeable lack of acquaintance with the facts as they are. It is a perfectly defensible position to hold that even with the raised requirements for admission the college course should still be four years in length, but this position must not be defended by appeals to the old college and its standards. The supporter of this position is not a conservative; he is a radical innovator who holds that a six-years' course is now necessary in order to lay the basis for professional studies and to make the preparation for life for which four years formerly sufficed. He must defend his new plan and must prove that it promotes scholarship, strengthens character, and increases the influence and the usefulness of the college in our democratic society. If

he can do these things I, for one, will throw in my lot with him without hesitation. If he cannot prove his case, then I prefer to pursue the old ideal along established lines by methods adapted to our new knowledge and our wider experience.

As I view the facts, the traditional American college is disappearing before our eyes, and will, unless the disintegrating influences are checked, disappear entirely in another generation or two. What we shall have left will be either an agreeable finishing school, or country club, for the sons of the well-to-do, or a combination of academy and school of general science. This, again, may be a good thing; and it may, on the whole, be a gain rather than a loss to assimilate our educational system to those of continental Europe by eliminating the college as the connecting link between secondary school and university. But those who so hold must not argue in the name of the college which they would destroy. They must defend the early specialization involved in putting—or rather in keeping—the professional and technical schools right on top of the secondary school. They must defend the transformation of the American college into a university faculty of philosophy. It is because I do not believe that either defense can be successful that I differ with those who attempt these things, and prefer to make a struggle to retain the American college as such.

The two most active and dangerous foes of the American college to-day appear to me to be those who regard a secondary-school training as adequate preparation for professional and technical study in a university, and those who, mistaking the form for the substance, insist that the course of collegiate study must be four years or nothing, unless it be that an especially hard-working student is permitted to squeeze four years' work into three.

The former sacrifice the ideal to the commercial and the material, and make every school of law, medicine, divinity, and technology in the land a competitor of the college. The college cannot stand that sort of competition indefinitely, and our life will be the poorer and the narrower if it goes.

The latter, by transforming the college into a university, at

least for the latter half of its course, not only radically alter the college training and the college degree considered as ends in themselves, but also put the college in a position where it is economically impossible and, from the viewpoint of social service and educational effectiveness, unwise, to require the completion of its course as a prerequisite to professional and technical study. In only four professional schools has this been done, two schools of law and two schools of medicine; and already, I am told, expressions of dissatisfaction, or incomplete satisfaction, with the result are heard. The fact that the policy is indefensible is clearly shown by the tendency to permit so-called college students to pursue professional studies for one or two years of the undergraduate course. This is an elaborate evasion of the issue, and one by which the degree of A. B. is made either meaningless as an arts degree or else one given for the completion of a two- or a three-years' course in the liberal arts and sciences, and not for one of four years.

Again I say that these new conditions may conceivably be better than those which they displace. But, if so, the American college is gone and in its place has come a new and different institution, no matter what its name, and the baccalaureate degree is hereafter to be a university and not a college degree. It seems to me to be perfectly clear that in this case the small college will eventually disappear utterly, even tho the name survives. The collegiate or academical department of a university will continue in a position of increasing insignificance—save where maintained for a longer or a shorter time by special causes—as an American shadow of a German faculty of philosophy.

Probably few or none of us wish for any such development as this. Least of all is it wished for by those who insist so strongly upon the maintenance, at all hazards, of a four-years' college course and the existing standards of admission; yet it is the almost certain result of the policy which they are now pressing upon us. Mistaking words for things, they are striking heavy blows at that which they would like to protect. They should realize the force of the statement of Francis Wayland, even truer now than when made sixty years ago: "There

is nothing magical or imperative in the term of four years, nor has it any natural relation to a course of study. It was adopted as a matter of accident; and can have, of itself, no important bearing on the subject in hand."

I want to retain the college not alone as the vestibule to the university where scholars are trained and where men master the elements of the professional knowledge required in the practice of law, medicine, teaching, engineering, and other similar callings, but as the school wherein men are made ready for the work of life. If the college is wisely guided these next twenty-five years, its students who are looking forward to active business careers after graduation ought far to exceed in number those who choose scholarship or a learned profession as a career. For such students the college will be all in all; and with no university course or professional school to look forward to, the college will be the one center of their academic memories and affections. But to draw such students and to hold them in large numbers, and so to impress itself upon the country as effectively in the future as in the past, the college must be really a college and leave off trying to be a university. This means that it must come back into its own natural and most useful place.

Plans to bring this about have been proposed. Most of them aim at shortening the time devoted to the course of the new college, and so at getting rid of one or two of the extra years that have been put on to the course in liberal arts and sciences since 1860. The reasons why any lowering of the standard of admission to college would be against the public interest, I have already stated. Three different plans of getting thru with the college course in three years instead of in four have been suggested. The first is to reduce the amount of work required for the degree so that it can be readily completed in three years. This is the plan at Harvard College, where the 21 courses required for the A. B. degree in 1880 have been displaced by a requirement of 17 1-2 courses, 1 1-2 of which may be anticipated at entrance. The second is to permit a student to take four years' work in three, if physically and mentally competent to do so. This plan seems

to me objectionable, in that it throws upon the student rather than upon the college the necessity of meeting a new and involved educational situation. It also tempts some men to overwork, others to loaf.

The third plan, and the one which commends itself to my judgment, is to recast and remodel the college course entirely on a two-year or a three-year basis according to the standard set—and upheld—for admission. The existing four-year course cannot be squeezed and pulled into a two-year or a three-year shape. It cannot be offered to one student on one set of conditions and to others on another set. There must be an entire reconstruction, and the new course, whether it occupy two years or three, must have a unity, a proportion, and a definiteness of its own. It must be a pyramid with a new altitude, and not the old pyramid truncated. It must be built of the best of the old bricks with plenty of new ones added thereto.

It should be borne in mind, too, that, contrary, to the hypothesis of some critics, the new and shortened college course is not at all the result of the widely prevalent tendency to hurry or to "hustle," nor is it suggested only by the needs of the professional schools in the great universities. It will, I think, displace the longer course because it is intellectually, ethically, and educationally better. It will train better men and render greater public service than will the present spun-out four-years' course with its inclusion of almost every subject of study known to man. There is no more obvious psychological fallacy than to suppose that the longer the time spent in getting an education, the better the results. The chances are that the contrary is true. Habits of dawdling, drifting, and incomplete and unconcentrated attention persisted in from sixteen or eighteen to twenty or twenty-two years of age will weaken any but the very strongest minds and characters. Less time better used is a useful motto for the colleges to adopt.

In the reconstruction which is just beginning, in the effort to get back the American college and to keep it, much depends upon enforcing a sound and helpful standard for admission to college. This has been, and in many cases is yet,

the most difficult part of the problem to deal with. But the progress of the past few years is astonishing and full of promise. Co-operation between colleges and between colleges and schools has given us the College Entrance Examination Board, whose uplifting and steadying influence is felt everywhere. Thru it the secondary schools learn what to aim at, and the colleges learn what to expect and insist upon. The enormous educational advantages of an examination are gained, while the difficulties and dangers of examinations which repress and depress good teaching are reduced to a minimum.

It will be seen, therefore, that I am hopeful that order is to come out of the present chaos, that the real facts of the existing complicated situation will be recognized, and that an educational reconstruction can be effected that will save the college for a new period of service to the highest ideals of the American people.

NICHOLAS MURRAY BUTLER

COLUMBIA UNIVERSITY

III

THE OBJECTIONS TO A SHORTER COLLEGE COURSE [1]

President Butler's proposition to establish a two-year college course has called forth numerous expressions of adverse criticism from college presidents, editorial writers, and others interested in higher education. The most pertinent of these objections may be summarized in the five following statements:

1. The bachelor's degree will be degraded.
2. The small colleges will be ruined.
3. The sum total of liberal education will be lessened.
4. Idealism in education will be displaced by the spirit of commercialism or industrialism.
5. The maturity of culture incident to a protracted participation in college life will not be attained.

The first of these objections, the one most commonly heard from college graduates, is based upon sentiment, if not indeed upon sentimentalism, and is therefore a question of only secondary and transient interest. President Butler in his report showed that the A. B. degree of the last generation had no greater value than a degree that might be given now in a university of the first rank at the end of the sophomore year. If the bachelor's degree of this generation has come to have an increased and generally recognized fixed value, or if there is any sacredness attached to it, then let a new term be devised to designate the attainments of men who spend four years in the secondary school and leave college at the end of the second year.

The second objection demands more respectful consideration. No well-informed man would be willing to see the small colleges permanently crippled, much less destroyed. They

[1] Read before the Schoolmasters' Association of New York and vicinity, November 15, 1902.

have served generations of young men with great fidelity. They have been the vanguard of our civilization in the East and West, and from them have been graduated the liberally educated men who have been the leaders of the nation's intellectual and moral life. But it should not be forgotten that the college exists for the men, and not the men for the college; if, therefore, a modification of its present function will enlarge its usefulness, the college should be transformed and readjusted to new conditions. The standards of admission to many of the small colleges are not equal to those of the arts department in several of the large universities. They are approximately equal as printed in the catalogs, but in fact the difference represents nearly a year's work. Furthermore many of the young men in the small colleges come from the villages and country districts where opportunities for thoro instruction in the secondary school are more or less limited. Is it unreasonable to believe, then, that the continued serviceableness of the small colleges will be assured, and perhaps enhanced, if they lessen their entrance requirements to the amount of a year's work, as compared with the standards of the larger institutions, and thus establish a three-year course in place of the present curriculum of four years?

The third and fourth objections cited above touch the very heart of the whole matter. They relate to something more vital and permanent than the vested interest of established institutions. They compel a critical analysis of present conditions in the several classes of higher institutions that claim to fit men for life or the vocations of life: a close scrutiny of the quality of their training, the comprehensiveness of their instruction, the soundness of their ideals. They likewise challenge the advocates of the new scheme to show that there is to be no retrogression in education, that the educated men of the next generation shall have no less power to deal successfully with the great civic, social, and industrial problems that confront us. President Butler's report and discussions show that he has not been unmindful of all this. His recommendations, if I understand them, involve two antecedent propositions, or premises.

The first is that this shorter curriculum is devised solely for the purpose of training, not the men who are to be the leaders in the world's thinking,—its scholars,—but those who are to lead in its activities. Such men are physicians, lawyers, ministers, teachers, engineers, and men scientifically trained to occupy positions of large responsibility in the great organizations of the present day that are concerned with transportation, commerce, and industries. It is not proposed to interrupt the education of such men as are to become scholars or investigators; nor of those that are to be charged with the responsibility of maintaining and advancing the standard of scholarship in our colleges and universities and schools of law, medicine, and technology. They are to prosecute their studies and investigations under ever-improving conditions, and with such extension of time as may best serve the interests to which they choose to devote themselves.

The second premise of President Butler's proposition is that the course of study, or groups of courses, covering the six years in the secondary school and college shall be broad, well-balanced, humanistic, and liberalizing. Such a program of studies would obviously tend to abridge the more or less chaotic scheme of electives in some of our colleges and universities, and on the whole effect a larger measure of distinctively liberal training than obtains at the present time.

With these two antecedent propositions in mind let us consider what facts and arguments can be adduced to nullify the third and fourth objections, that the shorter curriculum will lessen the sum total of liberal education and tend to replace idealism with commercialism.

The average age of boys entering college ranges between eighteen and nineteen, and in such universities as Harvard approximates nineteen. We may cry out against this fact and say that the age of entrance should be seventeen, but the fact remains and there is no immediate and generally effective remedy in prospect. There is a consensus of opinion based upon the facts of observation and experience that points to the conclusion that professional men and liberally trained business men who are to be concerned in large enterprises, should be on

their feet at an age somewhat earlier than is possible for men who have spent four years in college. It is not easy to escape the conviction that a young man ought to begin to learn his profession or business at an age not later than twenty-one. There is a very pertinent biological question involved in this. The duration of the age of plasticity is something to be reckoned with in the training of business men and professional experts. Dr. Carpenter is authority for the statement of the fact that "Our nervous system grows to the modes in which it has been exercised." There is a hackneyed but pertinent saw that as the twig is bent the tree inclines. But a young man of twenty-one has almost ceased to be a twig. This idea is re-enforced by a quotation from Professor James' chapter on habit: "Already at the age of twenty-five you see professional mannerisms settle down upon the doctor, minister, lawyer, and commercial traveler. By the age of thirty the character is set like plaster and will never soften again." A man leaving college at twenty-one completes his professional schooling at twenty-five, but his professional training is by no means accomplished. It has just begun. There must be a period of painful floundering during which, if ever, he must acquire successful facility in applying what he has learned in the schools. The point of the whole matter is that a young man's professional schooling and preliminary experience in the practice of his profession or business should approach completion before the termination of adolescence. In a limited sense it may be said that man's real education for his business or profession begins when he leaves school.

In this connection it is pertinent to inquire as to the effect that this two-year college course may have upon the standard of scholarship and attainment in the scientific or technical schools. The requirements for admission to the great body of such schools must be conceded to be inadequate if the theory is to be maintained that a professional training should be based upon a liberal education. The so-called humanities cut a very small figure, not only in their admission requirements, but also in the subjects of study pursued after admission. The majority of the professional schools are on a plane even lower.

Forty-eight counts are the legal requirement set by the Board of Regents for admission to the law and medical schools of the State of New York, and admission to such schools in many other States is obtained on conditions even less exacting. True, the bachelor's degree is demanded for entrance into a few of the professional schools of the great universities, but the wisdom of a requirement so rigorous may well be questioned. What would be the natural effect of the proposed shorter college course upon the admission requirements to the better class of technical and professional schools? The demands of wealth influence schools no less than men, and there are not only great corporations, but also large numbers of well-to-do people, who are anxious to have and willing to pay for the most skillful technical and professional service. If these schools, in the effort to supply this demand, which is growing more pronounced year by year, should insist upon this broader, more liberal, and, with a shorter college course, more accessible preliminary education before beginning professional study, there would be two logical consequences: The serviceableness of the nation's trained experts would be notably increased, and the number of liberally educated professional and business men who come into close contact with the people, and therefore have exceptional opportunities for influencing the conduct and establishing the ideals of men, would be multiplied many times. Should the schools attain this end as a result of the two-year college course, the sum total of liberal education in the land would not be lessened, but augmented. Not only this, but also the spirit of idealism in education, which counts for so much in a nation's civilization, would find a more widespread and a firmer lodgment in the minds and hearts of men.

There is another fact that must not be lost sight of in an attempt to meet the third and fourth objections. If a degree can be got in two years instead of four, a greater number of boys will be induced to make the necessary sacrifice of time and money. It is probably true that a considerable proportion of the boys who go to college come from families of slender means. There are many more who aspire to a

liberal education, but are deterred therefrom by downright poverty. Such boys are numerous in the public high schools, where their superior qualities of mind and character gain easy recognition. The story of the self-denial and sacrifice of these boys, and of their families for them, is pathetic in the extreme. Such youngsters are made of good stuff, and will loyally serve their generation if they can participate in the liberalizing influence of the college. Many of these and others better-to-do would, by hook or crook, register in the college, if a degree could be got in two years. Moreover, it is reasonable to believe that the shorter college course would have its effect upon the number of young men who would as a result seek a college training with the avowed purpose of entering upon a business career as distinguished from a profession. It is generally conceded that there is an increasing demand for men trained to habits of aptness and accuracy and fitted to participate in affairs of magnitude. In this way there would be another addition to the sum total of college-trained men.

The fifth objection specified above is the most subtle and elusive, and therefore the most difficult to establish or to upset. A sheltered life in the last two years of the present four-year course, during which a rapidly maturing man may chew the cud of reflection, have easy and wisely directed access to carefully selected libraries, come into intimate relations with highly trained and cultured instructors, hold daily converse with sympathetic classmates who have come up to the college from the best homes of the land, and participate in the college sports and recreation, is a privilege of inestimable value to men who are to be scholars, and to many others possessed of a sound character and worthy ambition. But what about the remainder? A professor in one of our foremost universities in a burst of confidence not long ago said that not more than three students in ten go to college because they have a genuine and abiding interest in the pursuit of scholarship. However this may be, there is much to be said in favor of a short college course for the seven out of ten, if they are to be successful workers and are to make their own way in the professions or in business. For many of these a protracted college life serves

to develop habits of dawdling and a flabbiness of moral fiber that operate as veritable inhibitions to men who must obtain thru their own efforts, if at all, positions of influence and usefulness. After spending four years in the secondary school and two years in college in the pursuit of a broad, well-proportioned, and liberalizing course of studies, that shall enlist their enthusiastic interest and demand a large measure of effort and attention, such men should abandon the sheltered life of the college and take their places among the men who are learning to do the world's work and to bear its burdens.

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IV

TRAINING FOR THE LEARNED PROFESSIONS

According to the last census, there were in the United States in June, 1900, 111,942 clergymen, 132,225 physicians, and 114,723 lawyers. Each of these terms, as used by the census officials, is considerably elastic, yet we are safe in assuming that there were approximately that many persons who made a living—or who tried to—by looking after the souls or the bodies or the property of the other 76,000,000. The Report of the Commissioner of Education shows that at the same time there were 14,400 instructors connected with our 480 higher institutions of learning. This number includes those of all grades from assistant to college president, yet for purposes of comparison I shall characterize them all as college professors. These four then—the minister, the doctor, the lawyer, and the college professor—comprise the learned professions, training for which I shall discuss briefly in this paper. It must not be inferred that there are no other professions, which might not with propriety lay claim to the title of learned, as for instance the scientist, the librarian, and perhaps the editor, but for the purposes of the present discussion the line must be drawn somewhere, and we have drawn it here, with those which are largest in point of number and with limits best defined.

I will say at the outset that the study is not prognostic in its character, but rather diagnostic—one of conditions as they exist, rather than an attempt to prophesy what they may be or to dogmatize as to what they should be. It attempts to answer the questions: What is the educational preparation of the rank and file of these professions? What is the preparation of the men in each profession who have attained eminence within it? Wherein does the training of the latter differ

from that of the former, and what changes have taken place in this training during the last fifty years?

The Ministry—As has already been stated, there were at the beginning of the present century approximately 112,000 members of the clergy alive in our country. This number includes all churches, Roman Catholic and Protestant, Jew and Gentile, and covers all grades of clerical preferment from the Cardinal down. It also comprises those of every sort of educational preparation from the most extended academic and professional, to the meagerest acquaintance with the "three R's." We have, however, some record of their schooling, for the Reports of the U. S. Commissioner of Education already alluded to, show that for the thirty years from 1871 to 1900 inclusive there were graduated from the divinity schools of all denominations in our country, 31,752 persons, mostly men. The best information which I can secure from the actuaries of the largest life insurance companies—men skilled in the use of mortality tables—leads me to the conclusion that this number represents with close approximation the number of professionally trained ministers alive in the country to-day. This conclusion is based upon the supposition—and it seems to be a valid one, according to the mortality tables—that the number who have died from the last thirty classes of divinity graduates is equaled by the number of graduates previous to 1870 who are still alive. The computation involved a study of divinity classes as far back as 1850, and the conclusions are, I believe, as valid as any of a similar nature are likely to be. We have also assumed, in taking the number 31,752 to represent the professionally educated clergy, that the immigration of such during the thirty years is balanced by a compensating emigration, or that both are negligible quantities, the latter probably being the true condition of affairs. The assumption also disregards the number who may have left the profession to take up some other line of work, tho this number is probably not great. In law and medicine it is a more considerable quantity, and will be considered later in the discussion of those professions. If, now, we compare this number of professionally educated ministers with the whole number of clergy as given

by the census, we find that approximately only one in four (28.3 per cent.) has been thru the special educational machinery for the preparation of ministers.

But how about the academic education of this class? In the reports of the Commissioner of Education already cited are shown the percentages of students in each annual crop of divinity graduates, who had previously taken a bachelor's degree in arts or science at some college or university; in other words, college graduates who are studying for the ministry. An average of those percentages for the thirty years covered by this paper is 24.7. That is, roughly, one minister in four, the country over, with the professional degree has also the academic. We have no means of knowing the number of college graduates among the 80,000 ministers who have not taken the divinity course, but it would probably not be so great proportionally as among their professionally trained brothers, and we are safe in assuming that the ratio of one college-trained clergyman to four is somewhat too large for the rank and file of the profession. It is, however, encouraging to those who believe that the efficiency of the profession bears a somewhat direct relation to its educational preparation to note that the college education is on the increase among divinity students. The percentage of those who had taken the academic degree for the five theological classes of 1881-85 inclusive was 23.6, while for the classes of 1896-1900 it was 32.6, an increase of no small consequence. Another fact of interest and perhaps of comfort to any who have been disturbed by recent statements, appearing for the most part in denominational papers, of a decrease in the numbers entering the pulpit, is shown by the Commissioner's reports. If there be such a decrease it is in the uneducated aspirants, for the figures indicate an increase of 114 per cent. in the divinity graduates in the last twenty-five years, while the increase in population for the same period has been but 87 per cent. With the educated ministry much more than holding its own, we need have no fear of the pulpit. In fact, under these conditions a decrease in the sum total of clergymen would have some hopeful features about it.

So much for the rank and file of the clergy, but how about its leading lights? As a basis for the study of such I have made use of a biographical dictionary which records somewhat in detail the educational preparation of 655 eminent divines, who were alive in 1900, chosen as widely as to denomination, rank, and geographical distribution as are those of the census. This number does not, of course, include all the great men, which term after all is but a relative one, but does not, I believe, go outside the ranks of those who have achieved more than ordinary distinction in the pulpit. Of these men who have climbed the ladder of success higher than their colleagues, 35.5 are graduates of theological schools and 53.3 of colleges or universities. A comparison of these percentages with those of the rank and file of the profession, 28.3 for divinity graduates and 24.7 for academic, is interesting, suggesting at least that the probability of gaining pulpit honor is increased 1.3 times by the training of the professional school and 2.2 times by the broader foundation of the college course. The exact educational preparation of the 655 successful clergymen covered by my special study is as follows:

	PER CENT.
(*a*) No preparation beyond the secondary school,	24.4
(*b*) College training alone,	11.9
(*c*) Professional training alone,	12.
(*d*) Training entirely abroad,	7.7
(*e*) College and professional alone,	10.5
(*f*) College and training abroad,	1.4
(*g*) College and post-graduate,	16.
(*h*) College, professional, post-graduate, and abroad,	.3
(*i*) Professional and training abroad,	.7
(*j*) College, post-graduate, and abroad,	1.5

A summary of the important points of this table gives us our percentage of 53.3 for college alone, or, in combination, 35.5 for the professional course in all combinations and 29.8 as the total having taken post-graduate work.

The study of the tabulation of these various classes of preparation, for decades of graduation, as far back as 1830, throws some light on the gradual changes which have taken place during the last fifty years in the character of education seemingly most conducive to eminence in the pulpit. It shows,

first, that the number who stopped with the secondary stage (*a*) has remained practically constant. In the light of recent developments in higher education this fact is of no great credit to the profession. Second, that the number taking either the college or the divinity course *alone* (*b* or *c*) has decreased to a very marked extent, the percentage in each of these classes being only about one-third that of fifty years before. This fact taken by itself would also seem discouraging, were it not more than compensated for by more elaborate combinations. For instance, the numbers who had taken both these courses had trebled, while those who had gone still farther and combined post-graduate work with them had considerably more than doubled in the same time. In other combinations there were shown to be but slight changes. These fluctuations seem to show that training for leadership in the pulpit is becoming more and more extensive and general rather than intensive and particular; that a mere knowledge of homiletics is not enough: that a liberal *Weltanschauung* is a desideratum. All this is most hopeful from the standpoint of the pew.

Medicine—Based upon the same process of reasoning which was used for the clergymen, the conclusion seems valid that there were in the country at the beginning of the century, roughly 112,000 (exact figures 111,849) graduates of American medical schools which were of sufficient repute to be recognized by the Commissioner of Education. It is probably safe to assume that one in ten of these failed to find a foothold in the profession and left it for more congenial labors. If that be so, roughly 75 per cent. of the physicians covered by the census have had the professional training. Altho this proportion is sufficiently discouraging to life and limb, we can nevertheless console ourselves with the thought that quacks in medicine are not so numerous as are the uneducated in the pulpit. Of the graduates in medicine only 7.5 per cent. had already taken their academic degree, a much smaller number than of their brothers in the Church. I have no figures upon which to base a calculation of change in this respect. Of physicians of note, I have the *vitæ* of 540 on which to base a special study of the educational preparation most conducive

to success in this profession. The facts disclosed by this study show one of two things: either the medical profession as a whole contains a very small number of uneducated persons, or education is a more necessary stepping-stone to eminence within it than in most other professions, for all but 38 (7 per cent.) of our 540 had continued their schooling beyond the secondary stage, and the larger number of those had entered the profession more than forty years ago. A comparison of the professional and academic education of the rank and file in medicine with that of the leaders gives us some striking results. The census figures and those of the Commissioner of Education for graduates at the medical school taken together show that 74.4 per cent. of the whole fraternity are professionally educated, while, of our picked men, the percentage is 75.3—a difference so slight as to indicate that the professional course alone is at no great premium in the struggle for recognition. But if we take 7.5 per cent as representing the college-trained physicians, good, bad, and indifferent, we find that the academic degree seems to increase their chances for success nearly six times, 41.9 per cent. of our eminent men having had that training. It is hard to see how the college course should be of such vast advantage to the physician, and it is safe to assume that it is not to him as a simple practitioner that it counts for so much. Most physicians of note are scientists and investigators, contributors to as well as exponents of their art, and it is along the line of productiveness that the broader academic training would be most helpful. For the physicians covered by the special study the preparation was as follows:

	PER CENT.
(*a*) No preparation beyond the secondary school,	7.
(*b*) College only,	6.7
(*c*) Medical school alone,	43.1
(*d*) Training entirely abroad,	2.9
(*f*) College and professional,	16.3
(*g*) College and abroad,	.7
(*h*) College and post-graduate,	5.5
(*i*) College, professional, and abroad,	2.8
(*j*) College, professional, and post-graduate,	8.2
(*k*) College, professional, post-graduate, and abroad,	1.1
(*l*) Professional and abroad,	3.1
(*m*) College, post-graduate, and abroad,	1.7

Three particularly interesting things are shown by a study of these figures from the standpoint of the period at which practice was begun:

1. *A decrease in the number of physicians who have carried their education no farther than the secondary school.* (*a*) Of those who have been forty years in the harness, 9.5 per cent. were of this class, the number gradually decreasing to 3.6 per cent. for those entering it during the last decade. Of course the rigid restrictions placed upon the practitioner have much to do with this, but even examinations have not been able to do so much for some other professions.

2. *A gradual increase in the numbers combining the college course with the professional,* the growth being from 3.4 per cent. for the decade 1840-50 to 22.9 per cent. for that from 1890-1900. Altho many of the moves in the direction of making medicine strictly a post-graduate study are too recent to show in our figures, the pioneering of Johns Hopkins is perhaps responsible in part for this increase. Certain it is that the next decade will see much more marked advances in this direction.

3. *A swelling of the numbers who avail themselves of the post-graduate advantages of our home universities* (*b*), they having increased sixfold in the last fifty years.

As regards training abroad, two things are shown: the number of those who had received their entire education abroad is decreasing (3.4 to 1.8 per cent. in 50 years), and 2d, those who combine some European study with the college or medical course is on the increase (1.7 to 7.2 per cent. in same period).

The medical profession has a right to be proud of its educational status. It is safe to say that it has distanced all others in the rapid strides with which it has covered the formerly unexplored confines of its field and recovered it from the mere fetichist and necromancer. Is it too much to ascribe this rapid advance, at least in part, to our educational machinery?

The Law—Our colleges of law have not been so prolific as have those of medicine, the available assets from them being

but 45,000. This gives us one lawyer in three with a professional training, after allowing for a shrinkage of one in six as representing those not now in active practice. Of the legal graduates, 27.2 per cent. had taken their academic degree. This looks encouraging on the face of it, being much larger than for medicine, but a study of the graduating classes for the last twenty years discloses the fact that the number who have taken the broader degree is rapidly diminishing. The average percentage for the five years 1881-85 inclusive (as far back as the records go) was 33.8, while for the years 1895-99 it was but 17. Without doubt the same move noted for medicine, of requiring the college diploma for entrance upon professional study, will soon set the matter right in this respect, but as yet it fails to show.

But to consider the rank of the profession: My source of information gives me exact educational data for 857 leading jurists as follows:

	PER CENT.
(*a*) No preparation beyond the secondary school,	39.8
(*b*) College only,	20.3
(*c*) Law school only,	11.5
(*d*) Training entirely abroad,	1.3
(*f*) College and professional,	10.5
(*g*) College and post-graduate,	9.7
(*j*) College, professional, and post-graduate,	4.8

The striking thing in this table is the large number who continued their schooling no farther than the secondary stage. (*a*) The study by decades gives us little encouragement on this score, since the decrease in this class in the last fifty years has been but 11 per cent. (46. 2 per cent. in 1840 to 35.4 in 1890). With so large a number of men able to achieve distinction before the bar without much use of the educational machinery, it would seem as if this was not so essential to success in this profession as in the others. It shows, also, that the schools are not our only educational factors. The study by decades further indicates that the number taking the academic degree alone (*b*) is decreasing (23.1 per cent. to 14.6 per cent. in fifty years), and that at the same time those depending for success solely upon the pro-

fessional school (*c*) has considerably more than doubled (11.5 per cent. to 27.1 per cent.). The large increase in the number taking the professional course alone would seem to imply that intensive study is most conducive to success in the law. Of the 857 lawyers covered by the special study we find that 45.9 per cent. had taken the academic degree either alone or in some combination, which, compared with the 27.2 per cent. of the rank and file, gives us a probability of achieving eminence just about doubled thru its attainment. As regards the professional course we have the unexpected showing of a somewhat larger number of LL. B.'s among the rank and file of the profession than among the eminent men. This is undoubtedly due in large part to the fact that for the earlier decades covered by our study the law school was practically unknown, and also that the large classes of legal graduates of later years have hardly had time to achieve distinction. On the whole, the legal profession is, from the standpoint of the schools, less broadly educated than are the others covered by this study, and will undoubtedly remain so as long as entrance to it is guarded only by a bar examination which demands but a technical knowledge of the law, and is, the country over, such a variable quantity.

The College professorship—In determining the preparation of this profession, the reports of the Commission of Education—such a mine of information upon most educational topics—fail to be of any help, and I know of no other source of information for the "rank and file" of college instructors in the United States. The problem would be a very different one in Germany, where all higher education is cast in practically the same mold, but with us, where the ways to the professional chairs are so many, the exact path is difficult to determine. Of the 14,400 who have places in the faculties of our higher institutions of learning, I have the exact data for 1090, or about one in fourteen. These are, however, the very ones who in the struggle for recognition have been on the whole most successful, and as is the case with the other professions, "the base degrees whence they

did ascend" are of greatest interest to us. The preparation of our successful college instructors was as follows:

	PER CENT.
(*a*) No preparation beyond the secondary school,	8.6
(*b*) College only,	17.2
(*c*) Professional schools only,	6.1
(*d*) Training entirely abroad,	6.
(*f*) College and professional schools,	4.4
(*g*) College and training abroad,	5.3
(*h*) College and post-graduate,	32.5
(*j*) College, professional, and post-graduate,	6.2
(*k*) College, professional, post-graduate, and abroad,	1.8
(*l*) College and abroad,	1.7
(*m*) College, post-graduate, and abroad,	8.2

A summary of all classes gives us a total of 76.1 per cent. with the bachelor's degree in arts or science, 21.1 per cent. with a professional course, and 49.1 per cent. with a graduate degree. The 8.6 per cent. uneducated, if I may use that term as synonymous with class (*a*) is slightly greater than for medicine, but with that exception we have here shown a greater educational investment than for any of the other professions. The number having taken post-graduate work—nearly fifty per cent.—is much greater than for any of the others, and a study of those entering upon the work for the various decades for the last fifty years shows a marked increase in this class, in spite of the fact that my tabulation does not indicate the amount of such work done by each individual. Without doubt, if this were shown, we should find not only that more aspirants for college positions were making use of the graduate school, but that fuller use is being made of it by each. The combination which seems most conducive to success in this work, judging by the rapid increase in the numbers making use of it, is that of the college with post-graduate work and training abroad (*m*), the percentage for this class having increased from 4.8 for those entering the classroom during the decade 1850-1860, to 13.2 for those entering it from 1890-1900. This fact is, however, not at all surprising. In the same time very little change is noticeable in the number taking either the college or the professional course alone, the latter not being constant for this

calling, but including the medical, law, and divinity schools as well as those of technology and agriculture.

On the whole, a hopeful feature in the training of the college professor is the growing tendency to broaden out rather than to narrow down, and this in an age of excessive specialization. Efficiency in the college chair demands that culture which comes only from an acquaintance with a broader environment than that of one's *Fach*, and this is shown, it seems to me, by the fact that so few with a narrow technical training have risen to eminence within it.

In conclusion, I will simply state, without discussing them, certain other facts disclosed by my special study of the eminent representatives of the four leading professions.

1. The average age of all the clergymen included was 59 years; physicians, 56 years; lawyers, 57 years; college professors, 47 years.

2. The percentages of the whole number mentioned who were under forty years of age were, clergymen 5.5; physicians, 11; lawyers, 5.6; college professors, 22.

These facts help us to form some conception of the age at which recognition may be expected.

3. The total number of years spent in educational preparation beyond the secondary school was, clergymen, 3.19; physicians, 4.09; lawyers, 2.95; college professors, 5.36.

4. In no one of the professions had the women who had achieved eminence made so full a use of the educational machinery as had the men. We must infer from this either that they can attain the same results with less training, or that a lower criterion has been made use of in judging their eminence. Which, I should not undertake to decide.

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V

THE STUDY OF MODERN LANGUAGES AND LITERATURES [1]

Ille potens sui
Lætusque deget, cui licet in diem
Dixisse: vixi.

—HORACE, *Odes* III. 29.

It was recently my good fortune to listen to an address in which the traditional conception of the scholarly life was criticised and the necessity emphasized of giving freer scope to the obligations resting upon the scholar as a member of society.[2] That "fine frenzy" of the scholar which springs from a passionate longing for truth must ever be a most welcome sight to all of us, provided truth be sought as the great reformer and vitalizing force of life. For the value of knowledge must always be measured by its relation to wisdom, and wisdom is but the ability to harmonize the forces of life. It is of course hardly necessary for me to state most emphatically that research work, the study of seemingly unimportant and lifeless facts, is not only at the very foundation of all truly vitalizing scholarship, but is at all times inseparable therefrom. Analytic study is absolutely indispensable, and no student, particularly no student of German literature, who has noted the fantastic and well-nigh weird efforts at constructive criticism practiced by the romantic school, can for a moment close his eyes to this fact. But I do claim that the schism between analytic investigation, and the constructive study of languages and literatures as humanities, is both unnatural and pernicious. No problem that confronts a student ought ever to be turned into a

[1] An address delivered before the Modern Language Conference of Harvard University.

[2] Bliss Perry to the Modern Language Association of America, at its annual meeting held at Harvard University, December, 1901.

Chinese riddle. Riddles are fascinating things to solve, but worthless. Rather in his dealings with such vital elements of human life as language and literature, every student should and can treat every problem so that it deepens his interest in the life that flows and wells about him, and fits him the more to stimulate the same interest in those with whom he may be thrown in contact, either in the classroom, in daily life, or thru the medium of the written word. The historian of German literature of the nineteenth century would have a far different story to tell, if in the first seven or eight decades the academicians had not drawn the fatal line between scholar and man. Heine's bitter railings against the dry-rot in the professorial brain have been re-echoed by nearly every prominent poet down to the present day. On the whole, this protest was justified. You cannot divorce scholarly activity from life without forfeiture of your best usefulness and without stultifying your calling. Nevertheless, we are somehow coming to do homage to the idol of abstract scholarship. The term "humanities" itself is gradually vanishing from the vocabulary of our scholars. To this tendency I ascribe in a large measure the mistaken methods into which we have fallen in our study and teaching of modern languages and literatures; certainly the remedies suggested to improve these methods have so far failed wherever they were dictated by considerations of abstract scholarship. The ideal of the scholarly life—for which this paper stands—ought, if it has any real value, to meet the practical need of reform in the study of foreign languages and literatures. I can of course speak with greater authority of the study of the German language and literature, but the gist of the following remarks will apply with equal force to the study of any language and literature that is foreign to the student.

The student or, if you prefer, the teacher of German literature in America has a distinctly different task from that of his colleague in Germany. It is one thing for a German to study the literature of his own country or for a teacher to present this literature to a body of students by birth and

environment sympathetically in touch with its spirit, and it is quite another thing to study this literature as a foreigner or to present it to students more or less out of touch with the fundamental problems and characteristic elements of German life. American scholarship, so far as it concerns itself with any literature not indigenous, cannot disregard this distinction. It is a practical problem that confronts us here, and one that is not finally solved by the so-called historical method, at least not as we have come to interpret that term. Allow me to illustrate.

When you approach the study of American or even English literature, you approach it in a spirit that is sympathetically in touch with the genius of the people that created it. You are not only more or less familiar with the political history of that people, but you are also able to appreciate the ideal values that find expression in that history. You come in touch with a civilization whose struggles and development are conditioned by a way of looking at life that is either your own or very much like it. And therefore, when in a study of Shakespere, for instance, the empirical facts constituting the setting of his works are brought to your attention, they disclose to you *ipso facto* the deeper import of these works, because thru racial instinct you at once realize the ideal value of these empirical facts. That the American student stands in anything like the same attitude toward German literature, no one, I presume, would venture to contend. In the first instance, when he comes to college, he has no knowledge of Germany's political development, much less of the ideal factors of its social and spiritual life. Furthermore, whatever knowledge he may acquire at college of these elements is largely superficial and of the most perfunctory kind. Indeed, I have found that very few of those who gave special attention to the study of German thought it worth their while to familiarize themselves with these elements; a fact which I can explain only by assuming that the necessity of so doing had not been sufficiently insisted upon by those who were aware of its importance. The presumption in favor of the existence of such knowledge when American or English

literature is taught or studied, does not exist when German literature forms the subject of study. And yet, somehow, not merely our students, but, I am constrained to say, our teachers, persist in pursuing the method used in connection with the former literatures. More than that, the entire curriculum of German study, both for the acquisition of the language and its literature, seems to take no account of the fundamental psychic difference between Teutonic and American race insinct. We teach and we arrange our courses largely upon the mistaken assumption that our students are of a temperament capable of sympathizing readily, and perhaps instinctively, with the peculiar spirit of the German language and of German literature. The prejudice against the German tongue among our American student body is one for which this mistaken policy is largely responsible. Nothing more firmly convinces me of the truth of this than the marked relative absence of this prejudice among American women students of the language. With them present methods are less glaringly inconsistent and show results less open to grave criticism, because their temperament is far more readily attuned to the German.

In the second instance, assuming that the necessary historic knowledge has been acquired by the student and that in the discussion of literary phenomena their historic setting may be considered in the same way as in the study of American or English literature, the essential *sine qua non* is still absent. Anyone who has had experience knows that it is a practical impossibility to talk to an American audience, no matter how cultured, about any topic of German literature in anything like the same way as he would speak to a German audience. I say purposely, no matter how cultured the American audience, *i. e.*, no matter how well informed it may be in respect to historic or literary facts related to the topic of the lecture.

Not long ago the statement was made in my hearing that professors at German universities have noted a marked difference between the attitude of German students and that of their American fellow-students toward the subject-matter

of any given lecture. This difference is said to consist in the greater independence of the German students' mind and their intenser interest in problems of scholarly investigation; whereas the American students are more prone to accept the *ex cathedra* statements of the lecturer and less interested in problems of abstract learning. On the other hand, it is acknowledged that whenever problems of pure learning are brought into relation with problems of life, the American students show at once not only a deeper interest, but a sturdy and assertive independence. On the whole, I believe this statement to be true. To my mind, it does not, however, indicate a lower order of mental incisiveness, but merely a difference of perspective. It is essentially the same difference that would enable an audience made up of Germans to appreciate to the full a lecture on poetic *Stimmung* (atmosphere), and would cause the same lecture to bore an American audience. Each people has been reared by circumstances to look at life in a different way, and it is not merely a futile, but a distinctly harmful proceeding to attempt to gloss over this difference. The great educational value of the study of German language, literature, and life rests mainly upon this difference of perspective. What we Americans need is the facility to see life in the perspective of the Germans; what the Germans need, fully as much, is to acquire the American perspective. For us this means a deeper, for the Germans a broader life.

Now I have dwelled on this point perhaps more at length than my space permits. However, it is most important when we approach the study of German literature. We need no one to tell us in these days that the essential character of a people is reflected in and determines its art and necessarily its literature. And so when you face German literature, particularly that of the last 150 years, you face a literature that has looked upon and reproduced life in a perspective wholly different from your own, and you, therefore, face a literature the beauty and force of which you cannot hope to realize unless you acquire the same perspective. This perspective is, in the last analysis, the perspective of the meta-

physician. I mean by this, that the great majority of German poets see and treat the phenomena of life not primarily as significant portents of higher and more advanced forms of phenomenal life, but as significant and largely symbolic of a spiritualized, an almost transcendental existence. What we Americans would commonly call "unreal," these poets and the great mass of the German people constantly treat as a vital reality. Conceive, if you can, an American or English audience naïvely enjoying such a dramatic production as G. Hauptmann's *Sunken bell,* or any of Raimund's fairy dramas, or even the superb symbolism of Wagner's later operas! Ernest Newman's recent book, *A Study of Wagner,* is perhaps the best possible proof of the correctness of my assertion.

But how is a student to acquire the ability of viewing life in the German way and accordingly of appreciating fully German literature? I answer the question by reverting to the introductory remarks of this paper: only thru thoroly human, constructive study. He must first find the point or points where his own life comes in touch with this literature. The study of the German language and its literature must gain for him that vital interest which is alone stimulated by correlating it to the needs of his own existence. This does not mean that he is to look upon the German language as a business asset. That would be no more nor less than the narrowest of all narrow views, one which has led to the so-called conversational method, a method that—like our business-colleges, so called—has its good points, but in reality blocks the way of all true scholarship. It means to my mind something entirely different. In order to make my point clear, I am forced to speak of some of the very elements of linguistic study.

Unfortunately the idea seems to prevail thruout our institutions of learning that the study of a language is quite distinct from the study of its literature. Certainly in the first years of the study of German we are concerned almost exclusively with the acquisition of linguistic form. I mean, of course, that the prime and often only stress is placed upon

the acquisition of the ability to transliterate a German sentence into the English idiom or the reverse. This, I protest, is putting the cart before the horse, and makes an end of a means. I have had students who have been excellent translators of words, but as a result of such principles, pitiably dense in comprehending the spirit of, or the peculiar thought current in, a passage. Therefore, to be effective, the remedy ought to be applied right here in the introductory stages of the study of German. Theoretically this remedy is simple enough. Practically, I admit, difficulties lie in the way. But these difficulties will vanish in time, if once the principle is accepted. The remedy consists in bringing the spirit of the language into sympathetic touch with the student. This surely cannot be attained by putting the instruction into the hands of instructors who are themselves incapable of appreciating the spirit of the German language, or who, vice versa, fail to appreciate the American point of view. What we need are teachers who, either as Americans, have caught the German trait, or, as Germans, have found the American reality no less commendable than their own. The present dearth of such teachers is one of the practical difficulties to be surmounted by time. A further important consideration is one of method. I use the term in its broadest possible sense. Two principles seem to me here of greatest importance: First, we have to disabuse ourselves of the idea that the *word* is the unit of thought. To hold to this view after the publication of Wundt's *Völkerpsychologie* seems to me puerile. If Wundt is correct in his theory that the *sentence* is the unit of thought, then it is to my way of thinking a foregone conclusion that our teaching must begin with this unit, and not with individual words and word forms. This, to be sure, is no new proposition, but, taken in connection with the ideal of scholarly work insisted upon in this paper, may lead to conclusions somewhat different from those heretofore arrived at. To discuss these, however, would lead me too far afield, Secondly, we must in the same way disabuse ourselves of the idea that purely linguistic difficulties are the only or at least the prime consideration in the selection of texts. I had much

rather put into the hands of a beginner a text teeming with syntactical difficulties, than a text, however simple in this respect, yet more difficult of sympathetic understanding by the student. I fail to recall a single German Reader which does not fly in the face of all reason thru the choice of its selections. Most of these are brimfull and running over with peculiar German sentiment, which the student always fails to understand and as frequently ridicules. Recently I took the trouble to examine texts edited specially for first-year reading, and among the considerable number of such editions it was with difficulty that I found any which would appeal to the American student. For second-year reading conditions are somewhat better, but largely only as the result of accident, since the number of texts is far greater. Fully nine-tenths, however, are quite impossible selections. Here again we have to do with a practical problem that will be solved only when the great body of teachers come to realize that difficulties other than the purely linguistic ought to be considered in the selection of texts.

As I was recasting this paper, there was sent to me by Professor Hohlfeld of the University of Wisconsin a lecture delivered by him last June. I was glad to note that he insisted upon the same general principle for which I have been arguing. In his paper he makes a suggestion which struck me as directly in line with the present remarks as to texts. He advises the use of texts that treat topics with which the American student is familiar, or can familiarize himself thru the writings of American or English authors on the same or similar subjects. His point is practically identical with my own, *i. e.*, the texts ought to contain an appeal to the peculiar bent of the American mind. His further suggestion along the lines of a comparative study of literatures is likewise worthy of consideration. It consists in bringing out, wherever possible, analogies between the German works read and the popular literature of America or England. For my part, I am strongly convinced that, if the elementary study of German is conducted along these broad lines, not only will the prejudice vanish which results from the inability to enter

upon its spirit, but the student will imperceptibly be led to take the first step toward acquiring the German point of view. For, no matter how careful our selections, every German text bears the stamp of its nationality, and if you interest the student in the thought, you make it perceptibly easier for him to appreciate its quality.

I take it that you have noticed how in this way linguistic study becomes transfused with the literary element. Let me now assume that the facility of reading the language fluently has been acquired. How should the student approach the study of literature as literature in order to get the fullest benefit of his study? And here too, I believe, the same general principle holds good. Perhaps you will follow my argument more readily if I confine myself to a concrete illustration. Let me assume the student's attention is directed to German literature of the nineteenth century. It is evident that for the average American the subtle qualities of this literature must, at the start, remain very much of a closed book. If it were presented to him from the distinctively German point of view, he would most likely be incapable of independent reasoning and consequently of really satisfying conclusions. He might, indeed, talk about the peculiar note ringing thru this literature, he might have something to say about the tremendously serious and deeply metaphysical treatment of life, he might discourse on poetic *Stimmung,* but he would know as little of the true meaning of his talk as would you when he got thru with you. His talk would be but the echo of statements heard in the lecture room or read in critical reviews, and its content therefore quite valueless as the expression of sound scholarship. There is, however, a way of approaching this literature which is full of suggestiveness for the American student and would of itself prepare him for appreciative and independent study of those elements which rightfully appeal in the first instance to his German colleague. Treated as the expression of the national consciousness of the German people, I am quite sure the literature of this period would become the object of a study resting upon a sound educational basis. Such a study would have proper regard for

the peculiar bent of our own students, and surely no period of any literature lends itself so readily and without violation of its real spirit to this treatment. It is no such difficult matter to trace in it the gradual development of the three great principles of German national consciousness, those of political unity, civic freedom, and social interdependence. Is it not reasonable to suppose that a literature presented and studied in connection with the great political, civic, and social problems of German life would both arouse a keener and more intelligent interest in the American student, with whom these problems are always uppermost, and at the same time prepare him to study those other more subtle problems for the very presence of which in German literature these empirical problems are themselves largely responsible? For to understand and sympathize with the peculiar and certainly profound effort of the German poets to express the ethical content of life in terms of art, it is a condition precedent that this content become as problematical to us as it was and is to the Germans, and that to this end the conditions of life responsible for this metaphysical character of German poetry become very real to the student. The more I have seen of literature study and the more I have listened to the plaint of colleagues at Harvard and other universities respecting the students' lack of deeper interest and independent conclusions, the more I have been forced to the view just propounded. I can conceive of no other preparation in this country for advanced study and of no other way in which the ability may be acquired of studying sympathetically the more subtle phases of the literary life of the German people, as a possible complement to the life of our own country, and as a most effective force in giving depth to our perspective of life.

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VI

HOW TO MAKE CLASSICAL STUDY INTERESTING

How to make the study of the ancient classics interesting is a question that many would answer by saying simply, "It can't be done." It certainly cannot be done for some pupils. What we must consider is how to make the study as interesting as possible for the good ones and as little uninteresting as possible for the poor ones.

To elaborate theoretical methods is one thing; to put them into successful practice is another. In my own experience I find that results are decidedly inferior to endeavor. Many a classroom that might be paved with the good intentions of the teacher is still an unhappy place for the pupils. This discouraging condition is usually due, I think, to a lack of energy on the part of the teacher, or to a lack of appreciation of what the youthful mind requires. This laziness or misapprehension is ordinarily expressed in a fatal monotony of method, and the pupils are in the position of those unfortunate persons to whom a housekeeper serves every day the same bill of fare with never a thought of the benumbing effect upon the appetite. This discussion will accomplish something if it arouses us to the necessity of two things which seem to me absolutely essential for successful work in the classroom—variety of method and constant mental activity.

A considerable proportion of our school children study Greek and Latin under more or less silent protest—a protest too often supported by parental ignorance and even by parental sympathy. They go to college, and where the work is prescribed for a year or two, continue it in the same attitude. Then, released at last, they rush into courses that many regard as more practically beneficial than the so-called dead languages. Thus, in Junior and Senior years, in college, we

get a half dozen students, some of whom are not really in love with the classics, but continue the work only because they are going to teach or because it is easier to stay in the old path where they have been started than to go out into the fields and find new ones. In a recent number of the *Forum*, the President of Western Reserve University, speaking of collegiate conditions in the United States, says: "The presentation of all study is made from the side of humanity. The dead languages are not dead. Latin and Greek live as they have never lived since Cicero spoke or Plato wrote. Greek is becoming among the most fascinating of all subjects for many vitalizing and vital minds." Without wishing to be thought pessimistic, I am afraid the picture has been painted somewhat brighter than the reality. The writer has, however, expressed very effectively our ideal.

Some of those who escape from Greek and Latin at the first opportunity realize afterwards what the study did for them and how much more it might have done if they had entered into it with interest. Others look back upon it as an absolute waste of time and tissue. These, and those who have never studied the classics at all, are the ones who belittle their importance at every opportunity. They make Greek and Latin elective in college, even in Freshman year, and by introducing a variety of entrance requirements carry the elective system back into the preparatory school, usually at the expense of Greek and Latin.

How to improve this condition is a question that ought to interest every teacher of the classics. And it is not a wholly philanthropic interest by any means. Every time a college of any importance abolishes its entrance requirement of Greek, a smaller amount of instruction in Greek is needed in the preparatory schools. For the purpose of self-preservation, then, if for no higher reason, we must do what we can to make the study of the classics more acceptable, its usefulness more apparent.

To begin at the beginning, why is it that this work either does not appeal to students or actually repels them? First, they are too immature to realize what the study does for

them, secondly it is the hardest sort of work. I should, perhaps, have put the second reason first. The ordinary child does not give much thought to the educational value of what he is doing; he spends his time willingly on any trivial and practically useless subject, if only it is made interesting and does not demand close application; but he is constantly impressed with the fact that his Greek lesson not only takes more time, but requires closer concentration than anything else. So, as he struggles on, he feels more or less distinctly that he is wasting his time and toiling to no purpose. We must tackle this problem, then, in two ways: we must make the pupil see the benefit of what he is doing, and we must, so far as possible, conceal or disguise the fact that it is hard work. These things are not so easy to do with children as with college students, and yet the school-teacher, much more than the college instructor, must have this thought in mind. I know that teachers complain that the colleges are constantly worrying them with increased demands and with unjustified criticisms of their work, that they require a better quality of preparation than the required quantity allows. Still, I will venture to say that the burden of strengthening the position of classical study, of saving it from the pit of darkness into which it is in danger of falling, must rest in large part on the schools. In four years the pupil's attitude toward Greek and Latin becomes a very definite one, so definite that if it is unfavorable, the college instructor must be one of extraordinary ability to alter it. Therefore I think that it is the school-teacher who must have constantly in mind these two thoughts, or, perhaps, only two aspects of the same thought, how to make the pupil realize that he is doing something worth while, and how to interest him so that to some extent he will forget the difficulty of his task.

Turning now from theory to practice, let us consider the possibilities. If you should lecture to pupils occasionally on the beauties of Greek and Latin literature, on the value of the mental training, as giving greater logic and accuracy of thought, on the better appreciation of all literature produced by the study of the ancient classics, they might be impressed

with your eloquence, would probably remember for a few hours a part of what you said, but certainly they would not be convinced at all. The result must be accomplished gradually, not by formal lectures, but by constant suggestion. For the first year of either Greek or Latin, I must confess there appear to be few devices that will make the study interesting. It is undeniably hard work, and it is difficult to find the sugar that will make the medicine sweet. And yet I have been more and more convinced that upon that year depends in a majority of cases the pupil's future success, that as his work is done in that year, so will it be done in those that follow. In fact, any attempt to interest the pupil in his subsequent course must be based upon the assumption that in his first year he has acquired a respectable vocabulary and a familiarity with the fundamental principles of grammar.

I am inclined to think that there is no royal road to the ancient classics, and that we might as well expect a child who has not yet learned to talk to read and appreciate the editorials in the newspaper as to set a pupil who has never seen a word of Latin to reading the *Gallic war* in its original form. He certainly cannot realize that he is reading a continuous and more or less interesting narrative, and it must take him some time to recover from the impression that a Latin text is valuable only because of its vocabulary and grammatical constructions. The work of the first year should be, I believe, small and thoroly digested doses of words and grammar. This sort of thing cannot appeal to the average child. The best we can do is to make it as little uninteresting as possible. Lists of words must be learned by heart; I believe there is no more expeditious way of acquiring a vocabulary. But even this burden—almost an impossible one for some pupils—the teacher may lighten by a judicious selection and arrangement of words, and if some rivalry can be created, considerable interest may be aroused. If the exercises in the book are dull, let the teacher write occasionally more interesting ones. If the members of the class are going to read Cæsar and Xenophon first, they must, of course, have the military vocabulary, but, in spite of its restrictions, exercises may be

constructed that will take them out of the atmosphere of storm and stress and give an initial glimmer of the personality of the people about whom they are to read. Occasionally, to relieve the monotony of oral and written drill, the teacher may read aloud sentences or short passages in Greek or Latin, asking volunteers to translate. Of course, in such exercises as this, a few will do most of the work and the plan cannot be carried very far. But a little variety in methods of instruction does help things along tremendously for teacher as well as for pupil. The danger of doing the same thing in the same way, day after day and year after year, is one to which we are all exposed and one to which most of us succumb more or less completely. We acquire what was recently called the fatal defect of consistency, and we are interesting neither to ourselves nor to others. It seems easier to do a thing in the familiar way, and yet when it has reached the point of monotony, would it not be less wearisome to do it in a different way?

After all, the first year is one of hard work, and there is little that we can do to relieve it. With the second year the possibilities begin to develop. We can then begin, I think, to inspire in the pupil by constant suggestion, by the proper treatment of what he reads, an idea of its value and of the value of the work, and at the same time cause him to forget or at least not to be oppressed by the difficulty of the task. Of course the personality of the teacher plays a large part in the solution of the problem. We might consider at length the proper relation between teacher and pupil, the attitude that the teacher should adopt in order to secure attention and develop interest, but that is a large question that would lead us away from the topic under discussion. I will say this, however, that probably in no other profession is personality more important than in that of the teacher, no business where a more delicate relation exists between two parties than that which the teacher must maintain with his class. One remembers the remark of Dean Briggs, that the teacher is constantly walking on the thin ice of popularity and is in momentary danger of breaking thru. One teacher will in-

terest his class and win success, because he has a pleasant manner, or a happy way of talking, while another will say practically the same things and his class will be physically restless and mentally bored. It is unfortunate, unfair, perhaps, but it is only a little more true of teaching than of other professions.

Well, assuming that our personality is moderately agreeable, how shall we accomplish our object? First of all, I think, by constantly impressing upon the pupil the reality of what he is reading; by giving him at the outset a clear idea of the man who wrote the *Æneid* or the *Anabasis,* for example, not necessarily a detailed account of the man's career, loaded with dates and unimportant facts, but a simple statement of the man's character and position. Compare him, if possible, with modern writers or familiar historical figures. In short, make him a living human being, not a dead writer of a dead language. Most modern text-books have an account of the author's life, but it is generally very dry reading, and if it is too detailed, as is often the case, the young student cannot discriminate between what is essential and what is not. He will get no vivid impression of the writer unless the teacher gives it to him by word of mouth. If there is an ancient bust or statue of the man, show a photograph of it; place it where it can be seen while the work is being read. The books have pictures, of course, but they are small, and, as a rule, poor copies of the original.

Coming now to the reading, I think the greatest difficulty is the fact that we must read in such a disconnected way, stopping each day in the middle of a chapter, in the very midst of an incident, perhaps, that might be interesting if we could go on immediately to the end; and not only that, but stopping at the end of every sentence to ask questions of grammar, sometimes necessarily so numerous that the pupil who dislikes the grammar and dreads the questions must feel as if he were walking on a barbed-wired fence, where to keep one's balance would be sufficiently difficult, even without the danger of the grammatical points. For this difficulty there is little help. The grammatical questions must be asked

until it is almost inevitable that the words assume in the pupil's mind a greater importance than the thought. This condition can perhaps be improved a little, if the teacher will confine his questions to the advance lesson and let the review be read continuously. Indeed, it may be better if the teacher regularly translates the review himself, always requiring the class to prepare it, of course, and having tests frequent enough to assure himself that the work is being done. In this way the student gets an unbroken impression of at least a page or two, and the idea may be carried further by having at intervals a review of a longer portion, when he should be required to translate passages of some length and should be asked questions about the subject-matter.

This is the only relief that I know for this fundamental difficulty. I will speak now of matters of detail which are often neglected, but which, if properly treated, should vitalize a study that must otherwise be uninteresting and dead.

In reading Cæsar every pupil must have a distinct idea of the geography of Gaul, the character of the inhabitants, and the organization and equipment of a Roman army. It may be objected that there is no time for all this, but I am inclined to insist that there is. In fact, these suggestions are based on the supposition that a pupil who is interested and is reading understandingly will perform a task better and in a much shorter time than the one who is not. Therefore, less time will be wasted in the classroom on halting translations, and the time gained may be given to such things as have been mentioned. If the teacher takes ten minutes out of an hour for interesting explanation and illustration, during the remainder of the hour the class will be in a more intelligent and more receptive condition than if they had known at the beginning that the hour was to be spent without relief from the question and answer system. When a class is reading Cæsar, there should be on the blackboard a good map of Gaul, western Germany, and the coast of Britain, and the teacher should trace with colored chalk the movements of Cæsar from beginning to end. A similar suggestion may be made for the *Anabasis* and the *Æneid*. In reading such

works nothing is more important than the geography, and nothing, I am afraid, is so much neglected. It is not enough to say that a certain place is in the northeastern part of Gaul. It must be pointed out on the map, and the teacher may in a few words give his class an impression of the locality. If he has ever been there so much the better. Seeing the place in his mind's eye, he can of course give a much clearer description. I will venture to say that every teacher of Greek and Latin should know Greece and Italy and the other countries about which he gives instruction. I have always felt that I could handle the difficulties of Cæsar's bridge more successfully since I saw a division of the German army cross the Rhine on a pontoon bridge which it constructed not far from the place where Cæsar crossed. You can teach the Iliad better if you have seen Troy and know from your own observation something about the work of Schliemann and Dörpfeld.

But, whether we have seen the place or not, we must make use of photographs—a much neglected educational factor. Every school could provide at small expense a collection illustrating the classical works that are read. I can hardly say too much about the importance of this geographical element—its importance for its own sake as well as for the interest that it gives to the text. The ignorance of college Freshmen on the simplest points is incredible. One told me recently that Spain was on the Pacific Ocean. Rome is in Italy, Athens in Greece, and further than that they do not care to commit themselves. Geography is the proper work of the history teacher, but surely there is no better time to teach it than when a class is reading a book that describes a place or events connected with it.

To return to Cæsar. We must, if possible, make the pupil see the Roman army and the Roman camp, and we must make him understand that these campaigns were the first step in the Romanizing of Gaul, in the creation of the French people and the French language. And in that way we may connect antiquity with modern times and make him see, not only the importance of the language, but the historical value of the

subject-matter. The history of Rome is unlike that of any other nation, at least that of any modern nation. The history of England is that of a small portion of the earth's surface, limited in importance as it is in territory, and running along side by side with that of other nations of equal extent and equal independence. The history of Rome was for centuries that of the whole civilized world, and all study of mediæval and modern history must start from Rome. Appreciation of that fact should give the classical student some respect for his work.

Do not think that I am advocating the lecture system for schools. Even college Freshmen appreciate and retain a very small portion of a lecture. But I do think that a teacher may sometimes devote a few minutes to commentary, which, tho not retained in detail the next day, leaves a general impression that will serve as a background for the figures of the text.

Another advantage of this plan should be that the teacher himself will extend his knowledge of the subject, will even to some extent keep up with modern scholarship. If he is satisfied to read the text and ask questions of grammar, what need is there that he should be much further advanced than his class? He cannot with school children go very far into the subjects of etymology, or comparative grammar and philology. But if he creates an interest in ancient life, he must have a considerable store of knowledge from which to draw. Questions will be constantly asked, sometimes only remotely suggested by the text, and he must answer them or pay the penalty. He finds himself at the entrance to the whole field of archæology and classical antiquities, and any teacher of intellectual taste and activity will be interested in what he sees before him.

I have taken Cæsar as an example and have tried to show how the reading may be made more interesting and more profitable. The same scheme may be applied to any ancient author. If a class, after reading Cicero's orations against Catiline, has not in its mind's eye a picture of the Roman Forum, either the class is abnormally dull or the teacher has been guilty of criminal negligence. Consider the classical

works that are read in school, how completely they cover the ancient world,—from Britain to Africa, from Gaul to Asia Minor,—and what varied aspects of ancient life they bring into view. And yet, at the end of four years, the knowledge of many pupils is confined to a list of words more or less long and a familiarity with grammatical principles more or less definite. They have had constant drill,—a thing of inestimable value,—but how easy it would have been and how little time it would have taken to give them something more tangible,—more practical, since that is the favorite word of the materialists.

Up to this point I have been considering the school course as it is now arranged. It properly belongs to the topic under discussion to ask whether that course is the one best fitted to make the study of the classics interesting and profitable. It appears to be a necessary weakness of the certificate system of entrance to college, which establishes the course of study for a majority of the schools, that quantity is required rather than quality. We cannot establish a definite standard of quality while we can demand a definite quantity. Of course we can detect poor quality when the student is in college, and can in that way prevent an invasion of poorly prepared students. But we cannot publish in our catalog a definite quality requirement. We cannot say that the candidate must have read with a certain degree of thoroness, that he must have had the requisite appreciation of what he has read. We can say only that he must have read so many books of Homer and so many orations of Cicero. How he reads it we must leave to the teacher, who is perhaps limited by lack of ability or lack of time.

Assuming, now, as the great majority of American colleges do, that admission by certificate is a good system, can we not do something to improve the quality of the preparation under that system? It seems to me there are two ways in which this can be done—by reducing the quantity and by introducing electives into the admission requirements in Greek and Latin. Cut the quantity down one-quarter, and you give the teacher time not only for further drill, but for the instructive com-

mentary that will make the classics live. In college an absurdly small amount is read,—half as much as should be read,—and we are so restricted because we ask the school-teachers to do more than they can do well. I am so impressed with this fact,—the superficial training of many of our students,—that I am inclined to propose the rule that, within certain limits, the amount possible in college is in inverse proportion to the number of pages covered in school. If the colleges required that the same amount of time be given to Greek and Latin, but demanded a reduced amount of reading, the inevitable result would be an improvement in quality.

The other suggestion that I wish to offer is this—that it might be well for the college to devise a scheme of electives in the classical requirements for admission, presenting a list of works including those now required and others, and leaving the selection to the teacher. Even where colleges offer such variety, as some of them do to a very limited extent, the schools do not take advantage of it, but, as a rule, read the same things year after year. The great benefit of variety would be for the teacher himself. Few can read the same thing year after year and retain any spontaneous interest in it. The Venus of Melos herself no longer excites keen admiration after you have seen her a hundred times. A thing of beauty is not a joy forever. After five successive years of the *Iliad* plus grammatical drill, its beautiful passages become trite and tiresome, and no teacher who is not himself inspired can inspire his class. I won't say that we can substitute anything for Homer, that every student entering college with Greek ought not to have it; I don't feel sure that all students ought not to read something of all the authors now required for admission to college. But I do believe that in general too much is read of single works. The first two years of Greek and Latin deal almost exclusively with military history; the student passes thru the tumult of battle until he gets the impression that the Greeks and Romans did nothing but fight. I believe that there would be a great gain if the offering in Cæsar, Vergil, the orations of Cicero, and Xenophon should be considerably reduced, and other things substituted.

the substitution varying from year to year. There is a place, I think, for schoolbooks containing selections from classical works not usually read in schools,—*e. g.*, some of the easier odes of Horace, some of Cicero's letters, and possibly the *De Senectute* or *De Amicitia.* In Greek something might be read that would carry the pupil to Athens, a place that, curiously enough, he never visits in his preparatory-school Greek. It must be remembered that a great majority of the pupils read Greek and Latin for only a year at most after they leave school,—that they get four-fifths of their classical training in school, and that it is the school and not the college that in ninety-nine cases out of a hundred is responsible for the classical knowledge of our educated citizens. Therefore the schools must give, so far as is consistent with thoro work in the language, as complete a knowledge as possible of the Greeks and Romans themselves, their history, and the various aspects of their civilization.

I may finally summarize these suggestions as follows: Many teachers conscientiously expose the dry bones of the language, until their pupils are familiar with its elements and its structure, but have never realized that the bones are only a necessary part of a living, breathing personality. If we want to make the classics interesting, we must pay more attention to the thought, to the people, to the place where they lived, and to their manner of living. If a teacher does not make clear the geography or topography of the text, the appearance and character of the people introduced, even the best pupils will have only a vague idea of what they are reading. This can be done to a greater or less degree under the present system, in spite of restrictions of time. But I have suggested tentatively two somewhat fundamental changes in the college requirements for admission, or in the work done by the schools,—namely, a diminution of quantity and an elective arrangement,—which would perhaps make Greek and Latin more interesting for both teacher and pupil.

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VII

FOOTBALL

Now that the football season is over and the smoke of battle has cleared away, leaving visible the field with its dead and wounded, it may not be amiss to reiterate views that are commonplace, but of common sense, regarding what is called our national game as it is at present played. I would say at the outset that I am heartily in favor of athletic sports and that it is mainly because I do favor athletic sports in their integrity that I wish to enter a vigorous protest against a somewhat brutal usurper, or "man on horseback" in athletics, who is at present enthroned and apparently worshiped.

It will be admitted that the golden mean of activity is most conducive to health, strength, and happiness. When there is too little activity,—too much inactivity,—physical weakness, if not disease, is likely to follow. But on the other hand, when activity is pushed to the extreme limit of human power and endurance, there is danger of injury and of weakness also. "Training" is carried to an extreme in preparing for rowing and football; the highest possible degree of tension is secured, and many suffer for life from the severe strain in going upward toward the summit of training and in going downward after the season is over. I cannot believe that the annual extremes of such training are conducive to health, to strength in the long run, or to longevity; and tho the present may not reveal results, the future will most assuredly have to pay, and that with interest, the penalty of nature's broken laws.

Nor can such a game as football as at present played be conducive to intellectual health and vigor. It is the mean of physical activity that is most invigorating to mind as well as to body. It is, of course, of frequent occurrence that athletes are good students, but an athlete is oftener, if indeed not

always, a good student in spite of extreme devotion to athletics rather than because of them. If Burns never wrote poetry while engaged in such comparatively reasonable activity as holding the plow, what can a boy do intellectually during the football season, when his mind is full of nothing but the game, and he is not merely weary and footsore, but so pounded and stiffened up that with all his fortitude and effort of will to walk with an elastic step, he betrays his only partially concealed physical and mental agony? Is such a condition, which is the rule, conducive to intellectual development?

Nor is it at all certain that the moral effects of football, as at present in vogue, are good. Could not morals be cultivated to a greater extent and to better advantage by changing the rules so that football may again become a genuine sport, and by raising, as a result, other sports from their present neglected condition to a place of honor and enthusiasm? It is said that football makes, and has made, for clean thinking and clean living in colleges. But would not a dozen real sports, enthusiastically cultivated by those fitted for them, make for more cleanness than one extreme form of athletics, which ought to be a sport, but which is now the severest and most trying task? If reformed and stripped of its brutalizing tendencies, football alone could do more than it now does for morals. The good moral effects of football are to be doubted. Could we get the resultant of all the thoughts, wishes, words, and actions elicited in the players themselves, in the student body, and in the public, I should fear for its moral quality. If this *a priori* conclusion be discredited, I doubt also whether an empirical or statistical test will show that football players as a class are more moral than others, or that they have any unusual power to take as well as to give which others have not. Nor is there any evidence that the head-work and power of initiative which the game is said to furnish as nothing else can, shows itself in after life in football players any more, if indeed as much, as in others.

It is said that football encourages athletics generally. This cannot be substantiated. In fact it is evident that football

paralyzes general athletics. It monopolizes the attention of the college and the public; it is football and nothing but football; and only the few who are fit for it can play it. The others stand around and can only shout or merely wish that they, too, could play it, instead of playing other excellent games for which they are fitted. But those other games are looked down upon and hence neglected. Such sports as tennis, basket-ball, boxing, fencing, running, jumping, and even baseball are so overshadowed by the all-absorbing fashion to play football that many are even afraid to say a good word for them. Verily, fad and fashion rule in athletics as in the social world. The college attention, both of boys and girls, is concentrated upon football alone; and football is now so professionalized that, as I have said, only the few—those who can stand the test and make the team—can play it. And even to these, instead of being a sport, it is work pushed to the limit of human endurance. If sport or play is activity as an end and work is activity for an end, football as at present practiced by first, and even by second teams in colleges, is no more a sport than is a circus performance; in fact it is a performance. It is not only a labored performance, but such a dangerous one that the best players are as fearful of entering a game as a soldier of going to battle, and Sheridan said that only a fool is not fearful then. Many players are on teams, not because it is their wish, but because they dare not hold back, thru fear of being called cowardly, or of being charged with lack of college patriotism. Under the pressure of fashion and the ideal embodied in football, many are enrolled for its battles against the wishes of parents and the better judgment of the boys themselves. And no wonder they fear, for, as Herbert Spencer says, the game comes as near a fight as the absence of weapons will allow. Can it be said that such a condition is favorable to either morals or athletic sports in general? Have not "field days," with their numerous "events" in a variety of sports been disappearing as fast as football days have grown numerous? is it the latter condition that shows extensive cultivation of athletics in general?

But it is said that the game cultivates a spirit of amity between colleges. Is that amity which we see aroused between two institutions, where there are charges of professionalism, attempts to "rush" other colleges and high schools, detectives to watch other games, a mix-up frequently in a war of words, not only between students, coaches, and football managers, but even between otherwise dignified professors in the opposing institutions? Amity indeed! In fact, to paraphrase an adage, it may be said that football creates much of the ill-will it allays, but does not allay all the ill-will it creates. In this age of easy association there are certainly other and better means of amity.

The reasons given in favor of football in its present form are mere subterfuges. We are all accustomed to delude ourselves and others in this way. If a person does not wish to do a certain thing he often takes refuge in a kind of diplomacy (which is said to be only a neat method of lying!) and gives all sorts of excuses which seem plausible enough, and which must, in any event, be accepted by the other party. But the real reason he keeps to himself—away in the background, or, it may be, below the threshold of his consciousness, as the psychologists would say. If a man does not wish to go to church or to accept an invitation, he has a variety of apparently plausible excuses, but the real reason is that he does not wish to go. Were it a football game he would go! Where there is a will there is a way, and where there is no will there is no possible way. We are all given more or less to a kind of plausibility, and those who have football in charge in the large institutions, and who are therefore in a position to set the fashion, assign such reasons as the foregoing in defense of football or allow such reasons to represent them in a *laissez-faire* manner. If, however, they would make a self-examination or open the door to their subliminal self, they would find, I am inclined to think, not the reasons usually given, but the two following ones, among others, for keeping football, Czar-like, upon the throne.

First, it is an idol that strongly appeals to common, average, physical human nature with its surviving instincts for

fight, danger, and blood. It is said, and with truth, that you do not need to scratch a Russian very deep to find the Tartar. The animal in us all is still vigorous; we frequently feel his stirrings. The Roman amphitheater exemplified the kind of sport which this animal craves, and two thousand years are not much in the evolution of man. Only a hundred years ago the animal instinct so manifested itself in refined women even, that, on the great day in the French Revolution when Paris seemed drunk and mad, they were seen to drink blood from the skulls of their victims. Football is a strong, rough, rude, dangerous, and somewhat brutal game, and so it appeals to and easily pleases this average of humanity; it satisfies the animal in us. The rougher element support it heartily, and gambling flourshes on the bleachers and in the gambling places before the game. But should it not be reformed so that, instead of appealing to the baser nature of humanity, it will elicit and cultivate the higher nature?

Secondly, and I am sorry to say it, the larger institutions, in an apparent scramble for members, make use of football for advertising purposes. They have large numbers to choose from, and hence having a team that can carry everything before it from among the smaller institutions, they are idolized because of football, and young men and women, wishing to be among winners, tend to flock thither; it is the "band-wagon" idea. Presidents of the big institutions will probably not assent to the foregoing as the two really moving causes of the dominance of football and their advocacy of it; but would it receive their support if those two motives were lacking? And yet those two motives are anything but worthy. Does the end justify the means? That advertising is the latent but real motive is seen often in the attempt to maintain a football team in some normal schools in order to keep them from becoming institutions solely for young women. The evident purpose here is to keep the few young men they have from going elsewhere,—not to help them by football,—for a physical test would exclude many of these as liable to injury from it,—but to keep them by it and, if possible, to draw others. It is a pitiable struggle thus to

attempt to survive by advertising after the fashion set by the great institutions. Not that advertising is an evil, but it is an evil to use a performance of that character to advertise. It was refreshing and encouraging to note that Ex-President Cleveland, speaking in behalf of the trustees of Princeton, at the inauguration of President Wilson, had the courage to sound a note of warning on athletics and by implication to throw his influence against the idea that football is the chief business of either a student or a college. If the game is too brutal, is it not cowardly in the big institutions not to take it in hand immediately and vigorously, and thus do a service to both athletics and education?

Is football as at present played and idolized not a false ideal? Many of the State universities, and probably other colleges, do not stand, among the high schools of their respective States, for scholarship and culture, but for football. Many of the high-school teachers bear testimony to this fact. Their college papers and the local press give much more space to football than to the great and vital occasions of university life, and would lead one to think that the institutions exist primarily for football. The Coach is the big man with the big salary and is known far and wide, while the president (notice the capitalization!) may be unknown. And yet after all what is this one exhibition—I will not call it sport—worth to health, scholarship, character, conduct, citizenship, or life? It seems to me that it is the common-sense thing and the brave thing to reform football vigorously, and at the same time to support generously and enthusiastically other athletic sports, so that in variety they shall dispense physical health and intellectual and moral vigor among students generally, and give to the public the benefit and pleasure of witnessing many true sports and not only a single physical exhibition.

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VIII

THE EDUCATIONAL EDICTS OF 1901 IN CHINA

In discussing the recent changes in China's educational system—or, more strictly speaking, the recent educational edicts—I propose first to present a brief review of the provisions of the more important edicts which have appeared during the past year respecting education; then to indicate some points of interest in the historic relations of these edicts, that is, to study the evolution of them; and finally, to note some current facts which may throw light on the much-mooted question whether the so-called changes in China's educational system are of any real significance, or are merely a matter of empty words.

A—THE EDICTS

Taking the edicts at face value, we find in them a remarkable array of efforts at educational reform on the part of the Imperial Government in the six months of 1901. The subjects embraced in the several parts of this reform scheme may conveniently be distinguished into four groups:

1. The civil service examination system.
2. The military examination system.
3. Education abroad.
4. The national school system.

The civil service examinations we take first, because they may be regarded as the pivotal point of the nation's educational system—that upon which everything else turns. Co-related with them, but of minor educational significance, are the military examinations,then the sending of Chinese youths to foreign lands to study is the most direct method of getting China infused with the civilization of the West; but for the great body of the people, enlightenment depends on the kind of schooling they can get at home; accordingly we come to this subject last, as the basis of the whole series.

1. *Civil service examinations*—The Edict of VII. month, 16th day is, of course, of prime interest. The introductory sentences, which are admirable in their tone, may be roughly translated as follows:

"A decree respecting the examination system for the choice of men of talent. The general plan. Our dynasty has followed the time-honored methods of the preceding Ming, using the *Pah-ku-wen*, the eight-legged essay, in selecting scholars. Distinguished ministers and great litterateurs have been found in large number cherishing the zeal of learning. But the means of choosing, in the course of over two hundred years, has become more and more faulty. Scholars have aimed only to get name and place, even by subterfuges and deceit, not grasping the lofty purport of classics and history. Now it is urgent that we seek real learning and that we correct abuses. Moreover, at this juncture, all nations in their intercourse show the utmost shrewdness and intelligence; and it is of highest importance that we widen our thought to all lands in order to develop latent abilities; therefore" . . .

The edict then proceeds to set forth the new plan of examination, viz., that in both local and provincial Examinations there shall be these three general divisions:

(1) Chinese government and history.

(2) Government and sciences of foreign nations.

(3) The Four Books and the Five Classics.

The test in the first division is to be by a lun, or discussion, comprising five papers; in the second a presentation of facts in five branches; in the third a deduction of moral teaching. The three divisions of the examination are to be given equal weight in judging the proficiency of the candidate, and examiners are forbidden to attach controlling weight to the subjects of any one division. In the examinations for higher degrees, including the Imperial and palace examinations for Chintze and Hanlin, the first two classes of subjects named (the modern subjects) are likewise to be used. In these examinations, one and all, whenever the Four Books and Five Classics are introduced, it is forbidden to use the *pah-ku-wen;*

in every test it is required that there be a true trial of the candidate's own ability, with none of the old-time subterfuges. Hereafter the study of the Four Books and Five Classics, tho regarded as of fundamental importance, is to be directed expressly to preparation for usefulness in the service of the Sovereign.

This monumental edict of the VII. month, 16th day, was preceded by two preliminary edicts in the same line, that of the V. month, 17th day, providing for special examinations by provincial authorities to select good men for immediate service, and that of the VI. month, 4th day, enjoining that such examinations be real, thoro, and not merely formal.

2. *Military examination system*—On this subject there were three edicts, all appearing in the VII. month. That of the 16th day abolishes the old plan of testing military proficiency by mere feats of strength and dexterity. That of the 29th day provides for the establishment of schools of military science in the various provinces, following the example of the Hupeh military colleges. That of the 30th day deals with the organization and teaching staff of such schools.

The tone of these edicts is eminently progressive; if followed up with deeds, they may one day be credited with great historical significance. It is unnecessary here to cite them in detail.

3. *Education abroad*—On the V. month, 20th day, appeared a notable edict commanding the Chinese ministers to the various countries to seek out Chinese youths, sons of merchants and others living abroad, who have attained proficiency in foreign studies, and to send them back to China to be employed in the public service. The proficiency is to be judged, in the first place, by their possession of diplomas or certificates from foreign schools, or by their having written books. On their return, they are to be presented to the Board of Government for recommendation to the Throne, and a special examination may be ordered to determine their qualification for particular posts.

A complementary edict to this first one under date VIII. month, 5th day, sets forth a comprehensive scheme for sending

young men abroad to study. Viceroys of all provinces are commanded to emulate the example of those of the Liang-Hu and Szechuan, selecting young men of good character, well qualified, and to provide for their expenses while engaged in their studies in foreign lands. Those who wish to go on their own charges, if found fit, are to be given equal standing. All are to be certified to the diplomatic representatives of China abroad for their supervision. Having attained proficiency in foreign studies, they are to be admitted on their return to special examinations for grades corresponding to Chüjen and Chintze.

4. *The national school system*—On the subject of the organization of the general educational system the great edict is that of the VIII. month, 28th day. After reciting the need of the country for men of educated ability, and citing the previous establishment of a University at Peking, it proceeds to a radical command, viz.: that the shuyuan, or examination agencies, of all the provincial capitals be changed into *ta hsue t'ang* or colleges; that in every *fu* and *chow* there be established *chung hsue t'ang* or academies, and in every *hsien* or district *hsiao hsue t'ang* or elementary schools. Furthermore, *mung yang hsue t'ang* or primary schools are to be increased in number. In the system of teaching, it is provided that the Four Books and the Five Classics in their larger purport (*ta i*) are to have precedence, and after them, Chinese history and principles of government and sciences both native and foreign. For all these matters of school organization there are to be regulations drawn up by the Board of Government, *Chen-won-ch'u*, and the Board of Rites.

Two other edicts on this subject appeared in the X. month. That of the 15th day prescribes that the regulations of the Chinanfu college, established by Governor Ynan Shi-k'ai, shall be taken as the model for the provinces and directs the Board of Government to distribute copies of these regulations to the provincial authorities. That of the 25th day directs the Government Board to draft a regular scheme of promotions in schools and colleges with final examinations under official direction, whereby candidates may attain rank cor-

responding to the several established degrees in the old examination system.

B—HISTORICAL SETTING

Scientific precision would require that we take at least two views of the historic relations of these educational developments: (1) to note wherein the new plan breaks with the old; (2) to trace the early suggestions of the present proposals; in a word we should study these edicts both as a revolution and as an evolution. As to the first point of view it is only necessary now to suggest the old systems without elaborating the contrast. The examination halls and the *pahku wenchang*, the strenuous struggle for place, and the travesty on justice in the formalism of the tests and in the use of money in lieu of ability—these are the familiar features of the examination system by which China has attempted to secure "justice, honesty, and the best first." As to studying abroad, the repressive self-sufficient policy of Chinese education has largely shut out her youth from these advantages of foreign study, which the more enlightened government of Japan has so eagerly utilized. The barren memory training given to boys in the Chinese schools, the traditional devotion of scholars to the ancient classics, and their indifference to the movements of modern history, are sufficient suggestion of the vast advance of ideals of educational organization to be found in these documents of the last half year.

The second historical aspect of these edicts—the study of their evolution—is more interesting and more difficult. It is of primary importance that we guard against thinking of these edicts as new propositions and expecting, thereupon, that the new broom will sweep clean.

Going no further back than the period of the reform movement in 1898, I believe that we shall find, in the connection between the two movements, the key to a just estimate of the significance of each. Turn the pages of the pamphlet containing the reform edicts of 1898, and you will be startled to find many of their provisions, especially on education, word for word the same as these. The abolition of the *pahku*

wenchang and the introduction of modern branches in examinations; the reform of the military examination system; the employment of real ability in public service; the transformation of the *shuyuan* and the establishment of a graded system of schools and colleges culminating in a great University at Peking all were included in the edicts of 1898. The only relic of these innovations that survived the shock of the *coup-d'état* was the Peking University. Now all the other projects have been reinaugurated, with more orderly method and with important amplifications; while the University is to be reorganized on a more practical basis. And tho, by a strange freak of fortune, the University has within a few weeks been practically done away with by the dismissal of the entire foreign staff, this too may only tend to prove the wisdom of the present administration. The reform of 1898 was a forced growth—a hothouse product—nurtured by scholarly enthusiasm and Imperial zeal. It presented a beautiful specimen of what the common soil of the country might produce under proper conditions, and so conduced, in an educational way, to the development of it to the more natural advance movement of last year. The present educational reform is still chiefly on paper, but the edicts have a measured tone that indicates not only serious intention, but reserve strength. So far as I have noticed there has been, in these edicts, no direct appeal to the gentry and literati to come forward with their private funds for the establishment of schools. Yet they have thus come forward in great numbers. In the edicts of 1898 we find reiterated appeals, to the point of peevishness, for such support, and yet it failed to come.

Another forerunner of these edicts, which must be mentioned in connection with those of 1898, is the remarkable book of the Viceroy Chang Chi-tung. It is only necessary to recall that he proposed the very measures, and in the very terms, which were embodied in some of the most radical of the educational edicts of 1898 and reproduced as we have seen in 1901.

This leads us to note, finally, among the springs of the

present movement the later joint memorial of the two Yangtze Viceroys. This bold and able document, which appeared just at the close of the fateful year of the Boxer outbreak, proposed specifically the four lines of educational reform which we have found followed out in these edicts.

In fact, we must credit much of the present movement to the admittedly weighty influence in the Councils of State of these two men, together with the present Viceroy of Chihli. Remembering that the foreign plenipotentiaries in the protocols kept hands off the subject of internal reforms, we shall find ourselves as discredited by history if we fail to accord high praise to men like these—men who, facing the future and the light, still stand firmly on the traditions of twenty-five centuries of the world's most scholarly culture—who, by so doing, are able to keep their hold on the hearts of their countrymen; and, as we may justly hope, will prove able to carry the nation forward in the path of a rational reform.

It remains to find out if these edicts have begun to materialize into facts. The edicts may be taken as expressing the official sentiments of the Government. It is mroe important to know how far they represent the private views of officials and literati, for officials and literati control public opinion, and public opinion determines whether edicts shall be enforced or not.

As to the introduction of Western branches in examinations we cannot report, because no important examinations have been held since the new order began. The eagerness of scholars to enter schools for the study of Western science, however, indicates that they expect such studies to serve them in obtaining official position. As to sending students abroad, there has unquestionably been a great impetus given to this movement within the past year. It is said that some five hundred Chinese students have been sent to Japan.

It is in the establishment of schools that we find the most tangible evidence of a new spirit in education. A very considerable list might be made of academies recently founded in leading cities, especially in the middle and southern provinces, by provincial officials and by the local gentry. The

items of this tenor in the daily press have been the best proof of this advance movement.

As indicating official intentions the most prominent of recent foundations is, of course, the Shantung Provincial College at Chinanfu. It is too early to speak of its work, but the fact that it has been instituted by one of the most influential of Chinese statesmen, and is progressing on a plan of liberal education is sufficient promise of progress. A corresponding institution is projected now for Chihli at the provincial capital, Paotingfu. Other provincial Governors and Viceroys are moving in the same direction, slowly and tentatively perhaps, but if they only continue to move we cannot complain.

One of the most notable enterprises I have seen in this field is the new Wu-ch'êng High School at Peking. It is established by Chên Pi, Governor of Peking, with the financial co-operation of the Viceroy of Chihli. It opened on I. moon, 15th day (Chinese), in modest quarters, in the Southern City, with accommodation for eighty students, all in the beginning class. The course is to comprise six years, with practically all the work in English, five days of the week being wholly given to English subjects, including the sciences. At the head of the English work is an accomplished scholar, Mr. Wang Shohliang, a former student at Greenwich, and later a professor in the Tientsin Naval College. The Governor of Peking takes an active personal interest in the institution.

Nothing I have seen in China, however, has interested me more than the Peking Industrial School, established by private gifts of enlightened Chinese. It undertakes, in a most intelligent and orderly way, to do for Chinese boys just what the Drexel Institute in Philadelphia or the Armour Institute in Chicago attempts for the youth of a great American city. Even the opposition which the institution has recently encountered bids fair to prove its strength, and to show, what is more important, that the controlling public sentiment, even in Peking, is in favor of progressive and liberal measures in education.

There is no index of educational advance more significant

than the printing-press. The vernacular dailies of Shanghai are increasing in number and in the boldness of their thought. Some of the keenest of applications of Western history to Chinese problems may be found in their editorial columns. The translation of books into Chinese is taxing the capacity of Chinese printing houses. Type-setters' wages have risen, and the Jesuit Industrial School at Sicawei finds it difficult to hold its printer-pupils as apprentices. One Shanghai printing-house has entered into a contract with a translation-company, made up of students in Japan, to pay $1 per 1000 words translated from books on specified subjects, and to take 500,000 words per month,—that is, to pay $6000 per year for translation alone. The publications of new geographies and other scientific works by a large mission press in Shanghai cannot keep pace with the demand, 1000 copies of a recent geography, costing about a dollar a copy, having been taken, in one order, by the new college at Chinanfu. The well-known "Diffusion Society" has increased its translation staff and is preparing text-books on a larger scale than ever before to meet an actual and steadily growing demand.

During the recent visit in the north I had the privilege of meeting several of the best-known educators of China, both native and foreign. From all of them I sought light on the present state and prospects of education. I should not be warranted in quoting them directly, but I may summarize my own convictions, as developed from what I have seen and heard as follows:

1. Chinese educational reform is a fact.

2. It will progress slowly, tho not so slowly as Western education has progressed from the age of scholastic classicism to that of modern elective freedom.

3. Foreign trained students will be given, in a few years, official standing commensurate with their capabilities.

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IX

DISCUSSIONS

SAN FRANCISCO'S SYSTEM OF APPOINTING TEACHERS

In July of last year the San Francisco board of education adopted a civil service for the appointment of teachers. The beginnings of the system were made in 1901, but the essential civil-service features were made prominent only in the present year. In the history of all precedents and traditional methods of the appointment of teachers in San Francisco the measure is revolutionary, and while in its present stage the system is perhaps not entirely above reproach, it certainly takes its place as a most radical step toward a merit plan of appointment.

The system includes both a written and oral examination, each counting one-half in the marking of the applicant. In answer to an announcement previously made by the board of education, over two hundred teachers holding certificates authorizing them to teach in California assembled on July 9, and were submitted to a written examination under a plan which will be described. For ten days following the written examination the applicants were admitted individually to the board rooms, and in the presence of the board of four members were orally questioned for a period of fifteen or twenty minutes. The questions asked were chiefly those of general methodology, aimed to determine the applicant's readiness of practical knowledge. Each member of the board was at liberty to ask questions. Upon the retirement of the applicant, his credentials of experience were examined and then each member gave the applicant a marking upon a scale of one hundred credits, which represented his judgment of the applicant's fitness. These individual markings were averaged, and the result stood as the oral mark of that applicant. After the mark of the written examination had been obtained the two were averaged, and the entire list of applicants were

then graded in the order of their standings. The highest thirty were thereupon elected to the substitute list of the department.

In the oral test the members of the board recognized as factors not only the correctness of the applicant's pedagogical answers, but also personal appearance, temperament, mannerisms, age, record of experience as obtained by independent inquiry, etc. Personal letters or visits on the part of friends were not positively forbidden nor prevented. The written test, however, was absolutely impersonal and represented the pedagogical knowledge so far as this could be shown by a written examination. The questions were of a general character, non-technical, and intended to test the intelligence and practical experience. The plan of conducting the written examination was such as precluded any possibility of the results being in any way influenced by outside consideration. The board invited as aids in conducting this examination five principals and teachers of repute and standing. The questions were not finally selected until the morning of the examination, even after the applicants had assembled. Each member of the board submitted a set of questions from which the final set was selected. The applicant did not write his name upon his paper, but a device of numbering was used which prevented, even if dishonesty were desired, the examiners from determining the identity of the writers of the papers. The papers were examined by the invited examiners, not by the board, and each examiner marked a special group of questions thruout, so that the personal equation was elided. The board did not revise the markings of the examiners in the written test.

It is to be observed that this competitive system admits, as factors of selection, an impersonal educational test, the written examination, which counts one-half; and an oral test, counting as the other half, which recognizes personality, presence, length, and quality of experience, and, in so far as it is not explicitly forbidden, personal and political influence.

A statistical examination of the results of the system offers some suggestions upon its practicability, and reveals some interesting facts. There were 201 competitors, of whom 27

were graduates of the two California universities, with the requisite amount of pedagogy necessary for securing a teacher's certificate without examination; 1 was an Eastern College graduate with pedagogical training; 62 were State normal school graduates; 68 were graduates of the San Francisco City Training School; and 43 were teachers who had no pedagogic training in any educational institution. The successful 30 showed training and experience as follows: 10 graduates of California universities with experience, respectively, of 7, 5, 7, 3, 14, 10, 1, 0, 0, 0 years; 6 graduates of the San Francisco State Normal School, 3 of whom had had one year's experience in addition to their two years' training-school teaching, and 3 of whom had had only the training-school experience; 6 graduates of the San José State Normal School with outside experience respectively of 10, 4, 12, 5, 10, 1 1-2 years; 1 graduate of the the Chico State Normal School with 5 years' experience; 1 graduate of the Colorado State Normal School with 7 years' experience; 5 graduates of the San Francisco City Training School with experience, respectively, of 13, 1-2, 2-3, 4, 2-3 years, and 1 graduate of the Missouri State University, with some summer-school pedagogy, and 12 years' experience. None of the wholly untrained class were successful.

For an understanding of these results the significance of the professional training given by the institutions chiefly contributing graduates to this examination is necessary. The University of California requires twelve hours for six months in pedagogy, a part of which may consist of teaching as an assistant in some of the public schools near the University; Stanford University requires the same amount of pedagogical study, but no time is given to actual teaching; the San Francisco State Normal School has the same standard of admission as the universities, and gives a course of two years' training, wholly professional, one-third of each day for the entire period being devoted to actual teaching, with close supervision, in a special training school under complete direction of the Normal. The other California State Normal Schools have heretofore admitted students chiefly from the grammar schools, and give a four-years' course, of which one period for

six months is devoted to teaching in the training schools; The San José Normal, however, has recently adopted the standard of admission of the San Francisco Normal, but there are no graduates as yet under the latter system. The San Francisco City Training School went out of existence in 1899; its products were high-school graduates who spent one year in pedagogic study, one-half of which time was given to observation in the public schools. If we compare the number of graduates of a given kind of institutional training with the whole number of that class who entered the competition, we obtain the following percentages of success: California Universities, 37 per cent.; San Francisco State Normal School, 33 per cent.; other California normal schools, 20 per cent.; City Training School, less than 1 per cent.; no professional training, no per cent. If we average the markings of all the individual competitors in each of the various classes we find the following result, based upon a scale of 100 credits: San Francisco State Normal School, 77.6; California Universities, 77.3; other California normal schools, 74.3; City Training School, 70.7; untrained class, 68.4. If we average the result of the written test alone we have the following percentages: California universities, 70.5; San Francisco State Normal School, 70.0; other California normal schools, 66.1; City Training School, 61.9; untrained class, 60.2.

These figures broadly suggest that this examination tended to cull those of pedagogic culture and the kind of intelligent experience which supervised training-school experience gives.

Age seems also to have been an important factor. Altho 63 of the 201 competitors were over thirty years of age, only six of this class were successful, and these were all under forty. This fact is doubtless due to low marking in the oral examination; election in the San Francisco Department, under a court ruling, is for life.

As to the fairness and honesty of the system, the above analysis speaks favorably upon the whole. The written test is wholly impersonal. The oral test leaves an avenue for dishonest influences, but unless collusion among members is practiced, the range of assistance to incompetent applicants is limited, for the reason that unless the applicant fails to

obtain a reasonably high mark upon the written test it is seriously difficult for a high oral examination to lift him far out of his place. While the system is not perfect in that it does not stop up all avenues of personal influence, nevertheless it takes a most important and essential step in requiring that the candidate shall show a fair degree of competency in the written examination before his influence can possibly be of avail. The important thing is to prevent incompetents from using influence and this end the system accomplishes with tolerable certainty. In the present examination the highest percentage in the written examination was 82.5. Among the 30 successful competitors 22 obtained a written percentage above 70. Of the remaining 8 whose written markings fell between 60 and 70, and who were, therefore, most materially assisted by high oral markings, there were 3 university graduates with experience respectively of 14, 12, and 0 years; 4 were State normal graduates with experience of 4, 10, 12, and 1 years, respectively; and 1 was a City Training-School graduate of less than one year's experience. On the other hand, there were only 4 unsuccessful competitors whose marks in the written examination exceeded 75 per cent. These figures show that the possibilities of gross unfairness very manifestly were limited.

When, however, we come to ask the fundamental question whether or not any system of examination is the surest way of securing the best teachers, perhaps the last word has not yet been spoken. Teaching personality and the right kind of spirit are the chief factors in the best teachers, and no system of examinations and markings can estimate these. The more impersonal the written examination the less efficient it is in determining these qualities. The oral examination, competently and honestly directed, is a much safer test, and the San Francisco board has certainly been wise in making this oral examination count one-half. Yet the real test is in the schoolroom only, and any system of appointment which does not base the test upon schoolroom work falls short. San Francisco, by reason of its urban advantages, educational surroundings, high salaries, and life tenure, is in a position to cull the best teachers from the surrounding

cities. This would require initiative on the part of the board to discover these signally successful teachers and to secure their services. The system which has been adopted does not go this far, and it is questionable that it can be made to do so. Teachers basking in the pride of local success will not submit readily to the embarrassment of a competitive examination. The fact is shown by a study of the records of the recent examination. A few, but nevertheless a very small percentage, of the class of teachers who have been signally successful in other cities submitted themselves to the examination. As a rule the competitors represent the unemployed—more or less promising young graduates of the universities and normal schols who have yet their spurs to win, teachers who for various resons are shifting their residences; and, to the largest extent, those who have had long but not necessarily successful experience in rural schools, and who have seized upon this examination as a chance of sudden elevation. The system certainly demonstrated its fitness to cull, on the whole, the best in each of these classes. If mistakes have been made, they are at least not many. Perhaps the plan of skimming the cream of successes in other cities is not, under existing political conditions, practicable and feasible. For a large city whose school department has been notorious during nearly its whole period of existence for gross school scandals, the step which its present board has courageously taken lifts the methods of appointment from the gutter at least to the sidewalk. The grossly incompetent no longer have an equal opportunity with the competent. Political and personal influence has at least been limited to those who belong to the competent class. One single step further, that of enforcing a provision making the use of any personal influence an act of disqualification, would greatly cleanse the situation.

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THE RHODES SCHOLARSHIPS

1. There appear to be two aspects of this question:

(*a*) The late Mr. Cecil Rhodes has left provision for certain scholarships and has willed that these shall be awarded to certain persons possessing certain qualifications. However much we may or may not approve of these qualifications, the will of the man must be observed and discussion of this aspect of the subject is idle. No young man is entitled to one of these scholarships unless he possesses the qualifications indicated in the benefactor's will, and should one by any chance ever reach Oxford who falls seriously short of the qualifications in his life in the University, that one must expect the finger of scorn pointed to him by his fellows.

(*b*) The discriminating of the relative measure of the prescribed qualifications in the several candidates that may present themselves for the scholarships is another matter altogether, and the methods of procedure may be considered fair subjects for reflection and discussion.

2. The qualifications appear to be:

(1) The candidate must proceed from a certain locality;

(2) Must have attended, for a number of years, some public or other large school (implied; see (5), (6), (7) immediately hereafter);

(3) Must presumably show that he is able to pass Responsions, or actually hold some diploma which is accepted by the University authorities in lieu of Responsions;

(3) Must pass a qualifying examination in knowledge and mental ability (here is a chance of acquiring some training in science!);

(5) Must show love for outdoor sports, such love to have shown itself in a practical form to such a degree as to have won the estimation of his schoolfellows;

(6) Must produce evidence, likewise from his schoolfellows, that he has shown the virtues characteristic of a Christian gentleman, viz., chivalry in its broadest and best sense, truthfulness, honor, kindness to the weak and helpless, etc.;

(7) Must be able to obtain from his Head Master a certificate that he has proved himself a lad of strong character,

that he is really an individual, that he has been loyal to his school, and that he has actually shown in his school life natural ability to lead.

3. Personally, I regard these as excellent qualifications. It seems to me that this great man has hit quite the right ideas, and it is to be hoped that his trustees will take every possible care to have his will in these matters followed as closely as possible.

4. Under the will the boy-leader of a school can claim that this qualification of his (estimated at 2-10 by the benefactor himself) be estimated at its full value in distinguishing him from his rivals, even tho he fall short of them in book-lore. Similarly the boy who thruout his schooldays has been an enthusiast in the play-fields has his claim, as also have the boys who have shown those precious gifts of charity and of chivalry, or who have been conspicuous for their loyalty to, and uprightness of character in, their school.

5. It is when one comes to measure these qualifications—to weigh them in the balance, so to speak—that one is cornered. The trustees have here a great task, and I feel that they should secure all the advice they can possibly get from the Colonies as well as from authorities in England, before propounding a scheme for carrying out the will of the great Englishman.

6. A few thoughts on some of the points:

(1) The question of domicile—It seems to me that the candidate should either be a native of a Colony or have had his home in one for a considerable number of years; that the home of his parents should, at the time of the examination, be in the Colony the scholarship for which he is seeking; that he should have attended a public school of the Colony for a given number of years, subsequent to which he should possibly be permitted to attend a school without the Colony; that the examination should be held within the Colony.

(2) As to the qualifications pertaining to the "chase" (sports generally), to "chivalry" and to "character"—The 3 C's—These virtues can at least be made real qualifications, altho it may be difficult, perhaps impossible, to measure their degree in the several candidates for the purpose of competi-

tion. It can certainly be required of all candidates to produce satisfactory evidence from their several schools, from masters and boys, of their disposition and conduct under these three heads. A perhaps clumsy means suggests itself to me of even assigning marks. Each Colony could have a committee—called, say, The Rhodes Scholarship Trust Committee—to adjudicate between the several candidates by actual evidence and careful inquiry in reference to their careers in the schools. In Newfoundland the Council of Higher Education might possibly make a satisfactory committee for this purpose, but, under all circumstances, one sees the possibilities of miscarriage of justice, the contingencies varying in the several Colonies. Of course it is a very wide subject. I am quite convinced, however, that there would be little difficulty in requiring excellence in what I have termed the three "C's" as an indispensable condition of eligibility. Nevertheless I cannot forget that the benefactor really did intend that those virtues should have a *telling* effect in separating the candidates.

7. It must not be forgotten that Mr.. Rhodes must have intended his scholarship to influence all the leading schools of the Empire. The scholarships may do more than anything else toward cultivating the virtues embraced in what I have termed the three C's among schoolboys, and therefore I feel strongly that it should be incumbent upon candidates to have attended some public school of the Colony for some considerable number of years in order that the Colony may not be robbed of this indirect blessing and help.

8. In order to debar or discourage attendance at "cramming" institutions immediately preceding the literary examination, all candidates should be required to prove that they have been at some public school for a number of consecutive years immediately preceding the examination.

9. It is evident that Mr. Rhodes intended attendance at school to be a *sine qua non.* Whether this attendance should be exclusively at a school in the Colony or not is a question for consideration, and much might be said on both sides. I am naturally concerned in the indirect effect of the scholarships in the Colonial schools, and there is some danger of this effect

being minimized if the best boys are encouraged or even permitted to leave the Colony to attend schools elsewhere. On the other hand, there are some strong reasons why a lad, after attending one of the public schools of the Colony until he is, say, seventeen years of age, should be permitted, if not encouraged, to go to a school elsewhere amid a larger and more quickening environment, and as his destiny is to be Oxford, it seems reasonable to conclude that he could not do better than attend, if possible, a public school in England, where he would have a chance of acquiring such peculiarities of manner and speech as are common to English folk. The "scholar" would, under the circumstances, when he went to Oxford, feel more at home amongst his English and other confrères, would settle down to work and enter into the corporate life of the university with more courage and less diffidence, and he would be able to commence immediately to derive the full benefit of life at Oxford.

10. It would seem a pity to send a lad to Oxford at too young an age, and I would suggest the age of nineteen as being the minimum, and twenty-one as the maximum age for competition.

11. No candidate should be permitted more than two trials.

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CHEMISTRY FOR ADMISSION TO COLLEGE

The introduction of uniform entrance examinations in chemistry has brought about a greatly increased interest in the instruction in elementary chemistry in secondary schools, and has also developed the fact that, while in some cases the preparation is excellent, in most cases it is entirely inadequate. So long as the requirements were often nominal it is not surprising that the school-teachers did no more than fit their scholars to meet them, but now if we accept the requirements of the College Entrance Board as those likely to prevail, we see that something much more than nominal is required—in fact, a very good elementary knowledge of general chemistry.

These requirements are set by the questions asked as well as by the outline of the ground to be covered, and there exists a great difference between the questions of the last two years. In 1901 there were questions involving complicated calculations and descriptions of metallurgical processes not at all suitable for beginners, and which could not be answered properly by anyone in an hour and a half. In the examination for 1902 there are, however, no such questions, and this must therefore be taken as the more deliberate standard of the board.

Starting, then, with these as the standard requirements, what is the minimum training needed to teach them successfully?

First, the teacher should have performed the experiments he is to teach and know what is said about them in the textbook. If he has not already this knowledge, it can be obtained during one summer session. This will enable him to teach, but not properly. Two more things are needed—the more important, knowledge of the laws and principles of chemistry; the less, practice in manipulation. Neither of these can be acquired in a short time, nor are the courses in most institutions arranged for this purpose. They are intended to turn out professional chemists or teachers of more advanced chemistry, so that one or even two years of such a four-years' course would be required to fit properly for the work now required in a school. Many of the smaller colleges can furnish this knowledge if the student does all the laboratory work possible and elects the lecture courses on theoretical and inorganic chemistry; but here the usual laboratory work is qualitative analysis, and a little quantitative, while for the teacher determinations of equivalent, atomic, and molecular weights, experiments in physical chemistry, inorganic preparations, and some quantitative analysis would be more useful.

As neither of these plans fits the teacher to cope with the present entrance requirements in the minimum time or at the least cost, evidently it must be done at a summer school, and it cannot be done in one session unless the teacher has already taught elementary chemistry.

During the first session the course should be exactly what the teacher is to give his pupils in the winter—general chemistry, lectures with many demonstrations, quizzes and laboratory work. He sees someone give the course, hears his explanations, sees the lecture experiments performed, and in the laboratory carries out the entire number of experiments with someone at hand competent to give more than a superficial explanation. This course should also include working simple examples based on the important laws and contain brief explanations of ionization, dissociation, electrolysis, and relations involving thermal and electrical energy, but it is mainly a course to illustrate facts, properties, and the simpler laws. Such a course can be given in five hours' lectures, two recitations, and fifteen hours' laboratory work a week for six weeks, and is nearly enough for one summer session.

Then the following year the teacher can take a course designed to supply the other requirements. This should consist of thirty hours devoted to lectures, illustrated by apparatus and demonstrations, and to the working out of calculations involving the laws described, the examples to be taken as far as possible from the laboratory work (described later). The lectures should cover the following subjects, without the introduction of any mathematics higher than simple algebra:

The atomic theory and Dalton's laws.

Equivalents and their determination.

Atomic weights, law of Dulong and Petit.

Laws of Avogadro, Boyle, Gay-Lussac, and Henry.

Molecular weights, methods of Victor Meyer and of Dumas.

Osmotic pressure.

Molecular weights, methods of Raoult and of Beckmann.

Dissociation and balanced reactions.

Ionization, ionic reactions.

Mass action, theory of indicators, solubility product.

Reactions of oxidation and reduction.

Normal solutions.

Structural formulæ [1] (inorganic and organic).

[1] Bringing in the important classes of organic compounds.

Isomerism,[1] polymerism (asymmetrical carbon atom).

Homologous series.[1]

Isomorphism.

Periodic law.

Energy relations.

Thermo-chemistry: heats of combination, of neutralization, of combustion, of solution.

Electro-chemistry: Faraday's laws, electro-chemical equivalents, conductivity of electrolytes, speed of ions; electrical charges carried, solution tension, dissolving anodes and selective electrolysis.

The laboratory work should all be quantitative: qualitative experiments and tests show properties, but to get a realizing sense of the meaning of the laws of chemistry the work should all be quantitative, even if the greatest accuracy is not attained. This serves best the twofold object of the course, verification of the laws and practice in manipulation.

The experiments should include:

Determination of equivalents, such as aluminium, magnesium, zinc, tin, copper, silver, bismuth, and calculations of atomic weights from them.

Determination of molecular weights such as, chloroform by Victor Meyer's method; bromine by Dumas' method; sugar by Raoult's method.

Air and gas analysis, for combinations by volume and gas calculations.

Analysis of magnesium sulphate or other salts for weighing, filtering, ignition of precipitates, calculation of analyses, law of definite proportions.

Acidimetry and alkalimetry for volumetric apparatus measuring, normal solutions, neutralization action of indicators.

Permanganate titrations of iron and of oxalic acid for quantitative oxidation and calculations. (Compare permanganate with alkali standard by means of oxalic acid, etc.).

Deposition of copper, zinc, and brass, with measured voltage and current density for electro-chemistry. And if time can be found, some inorganic preparations such as the purifica-

[1] Bringing in the important classes of organic compounds.

tion of sodium chloride, the preparation of hydrobromic acid, of phosporus pentachloride, potassium dichromate from chromite, etc.

The time not given to study and lectures should all be devoted to the laboratory work of this course, say six hours a day for thirty days; and the student should take no other course at the same time, for laboratory work in chemistry is hard work in hot weather, and considerable energy, both mental and physical, is required for such a course.

This is the minimum which will give the knowledge of chemistry required to teach properly what is demanded by the present entrance requirements; and must be supplemented by careful reading in elementary physical and inorganic chemistry, which will supply the information concerning the properties of chemical compounds for which there is no time in the course. It may seem that too much prominence has been given to theory, and that facts are sacrificed to point of view. The answer is that the teacher can acquire the facts for himself by reading any good work on inorganic chemistry, while, unless the phenomena be viewed and explained from the modern standpoint, the theory as given by the high school will be contradicted later by the university, and the claim of those who oppose any entrance examinations in chemistry be justified, for then indeed will such knowledge be worse than none at all.

The most important point in teaching elementary chemistry is to explain simply, but in accordance with modern theories, so that the ideas imparted can be elaborated and amplified later, but so that they will still be the foundation for subsequent more detailed chemical information.

The new entrance requirements, which mean in many cases the transference of the foundation in chemistry from the college to the school, and the great advance in chemical theory, have made changes in school instruction imperative, and it is in the hope of helping teachers of elementary chemistry to meet the new conditions that this is written.

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X

REVIEWS

An American at Oxford—By JOHN CORBIN. Boston: Houghton, Mifflin & Co., 1902. xi + 325 p. $1.50.

Mr. Corbin has written a fine account of university life at Oxford, making of it an interesting story. The book is quite as readable as the studies of Lang and of Goldwin Smith, and is in some respects more useful than either of these works. The student of university systems and policies and of the scholastic side of Oxford life will find the treatment of these subjects slight, and the book in so far disappointing; but as respects the college it is complete enough to serve the purpose of most inquirers. Mr. Corbin has the knack of a vivid style and a habit of candor which serves him in good stead when comparisons of English and American customs become necessary. He preserves too, tho he was a part of the college life of his period, a sympathetic detachment from it, so that he is able to describe it as if at a distance and to criticise it with a half-humorous candor entirely captivating. He was a scholar at Balliol in 1895, having before that time secured, at an American university, a collegiate reputation, both athletic and academic, which he maintained in his English residence. He was therefore qualified to understand and to compare the English systems as related to the corresponding American methods, and this book is mainly a record of his appreciations and comparisons. Two-thirds of the book is given to this record—made apparently while the experiences were still fresh in mind; the rest to a rather perfunctory summary of the history of the university, and to a discussion of university problems in America, which the reader can neglect without suffering much loss.

With the undergraduate, and especially with the passman, Mr. Corbin is in complete sympathy, in spite of the fact that he was himself a scholar of distinction. He manages to put into these pages enough of the charm of Oxford social life to

make it seem enviable to an American collegian. He has, too, a logical mind, and untangles snarls of detail in a way most grateful to the reader. The boating system at an English university, for example, is a tangle to most inquirers. Englishmen either know nothing about it, or have known it so long that they have forgotten how to explain it, and gaze at one with stolid bewilderment when one questions them. If the visitor at Oxford goes down thru Christ Church meadows to investigate for himself, he finds half a mile of floating clubhouses, peopled by an extraordinarily large number of students, dressed exactly alike, but apparently having no occupation but the performing of casual "stunts" on the water, and doing these with a serious nonchalance as puzzling as it is diverting to the observer. There seems to be no system to the performances. But as untangled here, the maze of Isis happenings, in tubs, torpids, trial eights, and bumping races, becomes an orderly and organized system of athletics. In like fashion the social life of Oxford, which seems to most Americans to be constrained, formal, and unspontaneous, is worked out here till it becomes a consistent method, rooting itself in social responsibility and expressing itself in sympathy. Much of the charm of Oxford is found, too, in these pages, as in the section on Oxford societies, and in the chapter on Slacking on the Char. So football and track athletics get not only mention, but thoroly good description and discussion. In fact all the external life of Oxford, especially the outdoor physical life, finds here a good interpreter.

With the mind of Oxford University Mr. Corbin seems at first reading to be less in sympathy. He is a little complacent and supercilious in regard to the amount of reading done in the preparation of university work. In my own day at Oxford—which was ten years earlier than that of Mr. Corbin—students, notably of course the honor men, but not excluding passmen, worked much harder than one would assume after reading this account. I cannot believe that the years have made a difference. One is tempted to think that the book is written down a little to meet the views of a public more interested in athletics and in social life than in scholarship. I

suspect, however, that this is not a fair inference. It is rather that the modesty of Mr. Corbin leads him to refrain from insisting on the element of university life in which he won his own distinction. Academic work is not obtruded upon the attention at Oxford, being done mostly in dark clothing rather than in white flannels and gaudy blazers, but a great amount of it is silently done. From my own experience I should say that at least one-third of the time, and two-thirds of the publicity, given to study is saved in an English as compared with an American university by reason of the rigidity of the time system of work and exercise hours. There is a time and a place for every labor and for every pleasure, and the aimless drifting about thru the college halls and thru the valuable hours of the day is saved. And it is easy to mistake the Englishman's orderly leisureness for inactivity.

For the institutions of Oxford Mr. Corbin has a reasonable amount of respect. He seems to me to be rather too hard on the Bodleian Library. The novel-reading collegian was not very cordially welcomed there, I recall, but the serious-minded undergraduate could always get what he wanted. The service was in my time quite as prompt and efficient as at any of the larger American libraries, and was incomparably more intelligent. Its weakness was in very modern works, which went but slowly thru the cataloging rooms; but there was almost always an expert at hand to direct the inquirer to the source from which the modern drew his wisdom, so that one gained rather than lost often by the unhurrying method. For one other Oxford institution Mr. Corbin has what will seem to many to be scant appreciation. No doubt the Oxford Union has of late years lost something of its commanding influence, yet it is still a molding force of greater potency than is here suggested. But, for the most part, in treating of these institutions the book does full justice to the past and present.

There should have been an index to this book and there is none; but one may be grateful for the third appendix—the other two being, characteristically, about athletics—which gives the statutes of the final school in English literature. Scattered thru the book also are many useful comments and

interpretations, so that the book as a whole is a good handbook as well as most entertaining reading.

With fourscore Rhodes scholars from the United States ready to invade and conquer Oxford in another year or two, the ancient university bids fair to become an interesting suburb of the American educational commonalty, and any good book such as this, which will serve to throw light upon its equipment and its methods, will be sure to receive a welcome.

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Principles of class teaching—By J. J. FINDLAY. London: Macmillan & Co., Limited, 1902. 442 + xxxvi p. $1.25.

In this book the author endeavors to deal in a fundamental and comprehensive fashion with most of the leading practical questions that confront the teacher and the organizer of school programs. The principles underlying the curriculum both in general and for particular kinds of schools or grades therein are laid down, and the methods of teaching are considered in the same way and with equal comprehensiveness. Dr. Findlay aims at a science of education, and according to him this should be an ordered, systematized, classified exposition, based on observation and experience. Especially must this exposition be kept in touch with practice. To endeavor to make the treatment scientific by "relying upon a formal foundation in scientific thinking" without constant support from practical experience is to fail, and Dr. Findlay accounts in this way for the ill success of Bain's educational writings.

The tone of the volume is sober, yet the ideas of progressive men such as Dr. Dewey meet a warm welcome. While all views are put to the test of common sense, and there is often suggested a compromise between reforming creed and use and wont, the author is everywhere anxious to improve and to invigorate teaching and even to revolutionize methods, where long usage is their principal recommendation. In general, however, the book is comprehensive and eclectic rather than intensive and in the interest of a cause. The

author is British in his notions of the functions of the several parts of the school system, Herbartian in his educational psychology, while here and there admiration for the active school life advocated by Dr. Dewey peeps forth and becomes crystallized in a school practice that is suggested or emphasized. We are given much that is rather sketchy, and a mass of material is presented that, by one not already familiar with the issues involved and the previous discussion thereon, will probably be assimilated rather imperfectly. The author endeavors, however, to enliven his treatment by vigorous devices of style and by concrete illustration, and on the whole the book is decidedly readable in spite of its theme.

At the outset Dr. Findlay attacks the "faculty" theory of the mind, attributing its development to the period of the enlightenment. He thus cuts the foundations from under "formal training," and "the harmonious development of all the faculties" becomes a comparatively meaningless expression. This introduces the problem of finding what motives shall be dominant in determining the school program. Here the author assumes an eclectic attitude. He discusses in turn the aim of equipping for adult life, and that of tradition on the culture of the race. He recognizes their importance as subordinate motives, but would find the leading criteria for the selection of educative material in the nature of the child, its interests, and the laws of its growth. Here he follows in general the ideas of the Hebartians, and expresses his confidence in the guidance of the culture epoch theory, provided it is interpreted in a sufficiently general way to allow of such exceptions as the observation of childhood may discern. "Interest," "apperception," "correlation," "concentration," and "self-activity" receive appropriate tribute. The author roundly declares that each school pursuit must stand the test of all these principles.

The classification of school pursuits introduces some new points of view. Beginning with the distinction between work and play, or the employments that demand strain and those that recuperate, he ranges under recreation all of the exercises involving considerable physical exertion, including not only games and gymnastics, but also manual training, in so far as

this is intended to be cultural as distinguished from preparatory for a vocation. He agrees with Dewey in constantly correlating the constructive work with the standard work done in the classroom, but would, I take it, make the manual occupations illustrative and recreative. They furnish, he thinks, an opportunity for spontaneously carrying into practice the motives furnished by the classroom study of the humanities, sciences, etc. Herein he clings to the older point of view in contrast to that of the Dewey school, which finds its motives for reading and study in the problems of construction, etc., that arise in the concrete imitation of social life which constitute the central feature of the school program. Dr. Findlay declares that, unless we justify manual training for its practical utility or its formal training, our only excuse for it is to regard it as recreative. He does not consider the alternative of treating it as an agency for the revelation of life to the child, and as belonging therefore in the same rank as the humanities and science.

The *work* of the classroom is declared to aim at either knowledge or skill. The humanities, including history, literature, Bible study, and geography, the concrete sciences, to which geography—a mixed subject—also belongs, and the abstract sciences of grammar and mathematics, are subsumed under knowledge-giving subjects. Language study is classified together with music and the drama as a conventional or symbolic art concerned with the acquisition of skill. In this way it recedes to its proper place as an auxiliary to the more fundamental knowledge-giving subjects. Language for the sake of language, as well as "art for art's sake," is to be banished from the school. It is notable also that, while the author regards languages as the supreme art for adults, he declares children to have little interest in it, and thinks that they should be led to study it only when they can see clearly the purpose of this. One-seventh of the school time between the ages of six and nine is, in his judgment, sufficient for the specific study of the vernacular. Only after nine does he introduce a foreign tongue and this is at first to be a modern one.

On the subject of the relative importance of the humanities

and the sciences Dr. Findlay is disposed to take a middle ground between the Herbartians, who concentrate about the humanities, and Dr. Dewey, whom he sets down as an advocate of realistic, or scientific and practical, study as the core of the curriculum. During the kindergarten period he would emphasize the occupations more, at the same time making them more realistic and doing away with much symbolism. He does not convert the kindergarten into a Dewey school, but modifies it in that direction. The same compromising tendency is noticeable in the program advocated for the years between six and twelve. After nine the abstract sciences of geometry, algebra, and grammar may be introduced, and nature study begins to be natural science. Dr. Findlay is from now on disposed to rely more and more on interest in knowledge for its own sake. After twelve the differentiation of pupils who are to have different careers begins. Children who are to continue in school after fourteen may enter the higher elementary school to take a four-years' course preparatory to a trade, commerce, or the civil service, or they may go to the secondary school to prepare for the higher technical schools, the university, or the higher positions in business, etc. Children who remain at the primary school for two more years are to be given as much as possible of the kind of work that will equip them more effectively for their future occupation. The European distinction between education for the classes and for the masses is here accepted, and practical education of the poor as a means of preventing revolutionary discontent definitely advocated. Moreover, Dr. Findlay agrees that the special schools—the junior forms of the secondary schools—for the young children of the upper classes are a valuable agency for preventing such loss of the educational effect of finer home training as would inevitably occur were the children of their patrons compelled to resort to the primary school.

As regards the general method of teaching, Dr. Findlay is an Herbartian. He distinguishes, however, between the method in the acquisition of knowledge, where "the formal steps" are adhered to, from that in the case of acquiring skill, where he deems modification of these to be necessary. Here

learning is by imitation, and its laws are those of performance instead of those of apperception and abstraction. The steps are first, preparation, which draws a motive for the exercise from the experience and interest of the child; second, presentation, where a copy is provided to be imitated; third, criticism of the performance and the formulation of rules for work based on this criticism; fourth, practice. It will be seen that "the formal steps" appear here under a thin veil.

Dr. Findlay's book seems to me more valuable for those who, already familiar with current creeds and issues, are interested in the thoughtful verdict of a practical man on the whole situation. It would not seem so excellent as an introduction to the study of the points of view that he so cleverly combines into a panorama.

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Education and the larger life—By C. HANFORD HENDERSON. Boston: Houghton, Mifflin & Co., 1902.

This is one of the most curiously interesting books on education that have been written by an American, because of the double meaning given to civilization and education as set forth in the first chapter, which opens with the statement that, "It is the purpose of the present little volume to make a large inquiry, that inquiry as to how education can be so applied in America as to best further the progress of civilization." Civilization is then defined to mean either the sum total of what man is doing in the way of material and intellectual achievement, or else the force underlying this achievement, the inner soul of it. Following from this proposition is the double interpretation which applies to education—the outer visible result of an inner experience, or the movement of the inner experience itself. No correct view of life, with which education is identified, should lose sight of either of these meanings.

Another generalization the author reaches from this viewpoint justifies him in calling the outer aspect history and the inner aspect philosophy; consequently, the outer aspect be-

comes knowledge, and the inner aspect development—self-related as cause and effect. Stress is therefore laid on causes rather than effects. From this line of argument civilization is a force, a progressive idea itself as social environment, and under this hypothesis, education being an inner experience, resolves itself into a practical process for the nutrition and growth of civilization. It is out of such thoughts as the foregoing that the author institutes his treatment of the subject in the manner that appears most rational and easiest to handle. Admitting the elements of the material universe to remain practically unchanged,—the elements assumed by the old Greeks,—the author assumes that there must be some element common to all these diverse elements either in nature or in man's thinking, and this unique thing, when discovered, is Idea. Much is made to depend on Idea. Small Ideas make a small world. Big Ideas make a Greece, a France, a Germany, an England, and an America. This interplay between fact and idea somehow makes civilization possible. Nature, as thus viewed, is not declared to be a fixed fact, but a progressive environment—a sort of ecliptic plane upon which idea and fact work. To get at the core of these things, experience, in the larger sense, is the only road to truth. Upon a moving platform, such as has been described, the author builds up a theory of education based upon the uniformity of nature's laws, and on this solid platform its results can be predicted with the same precision as phenomena in other departments of natural science. To formulate the philosophic idea clearly is to formulate education clearly; "it is wrapped as completely in the philosophic idea as the propositions in geometry are wrapped in the initial axioms." Of course this question may face two ways, but the author goes at it in a manly way, never shrinking from any conclusion that his logic leads him to. He permits no slippery notions to interfere with either premise, and he excludes doubt from his conclusions. He goes about this business by gathering up knowledge, and compressing it into the most general abstract idea, whatever it may be, which must be expressed in specific terms of the social purpose, and education thus descends from its lofty height to a lower plane as a practical process for carry-

ing out the social purpose. The social purpose is declared to be the wealth of humanity or human wealth. An approach is made to it when an educator is defined to be one with a social creed, and to be practical, he must carry his creed into effect. This creed now takes on the shape of mental furniture and the method of handling such mind-stuff. This accumulation must be worked into thought, but the process of bringing all these divergent lines of thought into a consistent whole and endeavoring to make them square with one another is such a tremendous task that few undertake it. But if one sets out in pursuit of this object, and happens to find himself before he finds another, he has reached a high vantage ground from which he can rationalize the plan of the universe. After a somewhat interesting discussion of philosophy, the author finally reaches the social purpose by another route. By human wealth the individual is exalted, a process quite different from commercial or industrial prosperity. Either to lift up the few to loftier heights or to elevate the entire mass,—to render them a trifle more human and less brutish,—is the transcendent object of education. The essential things in life are mostly neglected. The great bulk of our laws have to do with merchandise and real estate; instead there should be liberation, freedom of motion, choice of occupation, encouragement of opportunity; a perfect type of human life is the one which educators strive to realize. In this respect the author agrees most heartily with Emerson, who believed one should "never spoil himself in the making." The problem of the social life in its last analysis is individual, and its conflicts are to be fought out in the spirit. Here victories for the soul are lost or won.

Chapters I and II, which contain the key to the book, are the strongest. Both contain many sharp antitheses and statements in almost every paragraph that challenge attention.

In Chapter III—the source of power—compulsory education is declared to be utterly impossible, because the Kingdom of Heaven may not be taken by violence. In this chapter all people are divided ingeniously into two classes—those who are *alive* and those are *dead*—not buried. The difference between the living and the dead is in red blood and

yellow blood, there being all shades of difference between these two extremes. Here boldly the author steps out among ministers and school-teachers, and asks, how many of them are sources of light? Among these he finds a false activity of dead souls without going to Gogol's novel. With all the vehemence of Carlyle's crabbed nature he goes for the social conventional liars. No good is found there or in their shams. He traces the source of power to human feeling and action, residing in the human heart. Good and great things can only be born of good and great feelings; and children are found to be dull or not dull, according to the test that is imposed upon them.

Out of this volume one can extract almost all kinds of thoughts hitting the existing order of things in a thousand ways. The book, as a body of doctrines, could be taken for a volume of essays as well as a treatise on the theory and practice of education. In saying this, it should not be inferred that it is a weak book, either in its purpose or in its modes of expression. It bristles with more bright sentences, more antitheses, more keen thrusts at existing manners, modes, and customs than any other work on education I ever read. All sorts of things are predicted, unless we change our plan of reverencing commercial and industrial pursuits, and give more attention to the wealth of human souls—or the social purpose. The social purpose of the school is carried away beyond anything that Dr. John Dewey ever advocated. As the author sees it, human wealth is submerged for the dollar. Mr. Henderson has the stuff in him that made the Jewish prophets. He speaks out. His pleadings for social equality and opportunity were equaled only in this country by the zeal which at first characterized the scholars, the high thinkers, and the mighty farm laborers of the Brook Farm Movement.

With a prophetic insight he drives home thrusts into certain weaknesses in our system of education. Whether his remedies are the right ones is another matter. Yet one cannot help feeling that while the author is taking himself very seriously, he is self-intoxicated with his own ideas and, at times, overwhelmed with the largeness of the thoughts he

undertakes to work out. If he had thought all his lines clean thru from start to finish, he would have omitted much that is written, or have given some of it a different setting. Taken as a whole, there is a great deal of good in this book of eleven chapters and 386 pages; a book without a preface—but a book dedicated to his mother, who was "the wisest of all my teachers, and the best of my friends." This brief dedication is in keeping with the whole tenor of the author's sentences in each chapter—of one who is thoroly devoted to humanity and who believes in self-sacrifice, self-endurance, work with hand and brain, and the highest virtues found in our religion and in conformity to the idealism of the early Christian martyrs.

Against the mechanizing of human life, degrading it more and more into a mere machine, he protests with all the energy and indignation of a fervid nature. In short, it is a startling book! Fearlessly plain! It ought to be read on account of the issues it raises, not the ones that it settles. His plan for a many-sided life is along the line of the best thought of this age. He declares that it is a stupid thing for one to go on all his life making pins, buttons, shoes. Life is simply what one gets out of it, and it is too valuable to be cheapened into a mere nothing. To use an expression common in Homeric writings, "the winged words fly about in all directions," and expresses the message this man has for the world in strong, scathing sentences.

It is a good book to read, because it makes the reader want to argue with the author on nearly every page.

J. M. Greenwood

Kansas City, Mo.

XI

NOTES AND NEWS

Greek at Oxford

The question of what share the teaching of Greek should take in a liberal education has once more arisen in an important form. A resolution has been submitted by the Hebdomadal Council to Congregation at Oxford which, if adopted, would have had the effect of abolishing the study of Greek at public—and of course preparatory—schools, except in the case of such boys as were intended to try for classical scholarships. The resolution was as follows: " That candidates shall not be required to offer both Greek and Latin in the examination in stated subjects in Responsions." It was negative by 189 votes to 166, after a long discussion; but there seems to be some sort of dissatisfaction with the way in which the resolution was actually worded, and it is quite likely that the subject will shortly come up again for the consideration of the University authorities. But meanwhile another question may be asked. If for purposes of examination, or for the convenience of schoolmasters, or in order to allow more time and room for the teaching of living languages or modern science—if for any or all of these reasons one of the two dead languages, Latin and Greek, is to go, why should it be Greek? Why, of the two languages, should the one which is discarded be that which is admittedly the harder to learn, but to which belongs a literature infinitely greater than that of the other? That raises the question of the educational value of Greek in a form which was not discussed by Congregation, but which clearly is the form in which it must first have presented itself to the examiner and the schoolmaster.

What are the reasons, then, which of late years have led so many able thinkers to advocate the teaching of modern languages or science in preference to Greek? To answer that question, you must go, in the first place, not to the schoolmaster, but to the parent. Let us take the case for

an average parent desirous of having his son educated, and intending him to take his place in the world later on as a business man, or a barrister, or a soldier, or whatever he wishes; moreover, not wishing his son to begin to specialize at an early age in any particular subject, but to receive a really liberal education. The schoolmaster tells him that he will get the most liberal education—in fact, will procure the best results for his money—by having his son taught under a system in which Latin and Greek form a base on which everything else is built. But the parent has, perhaps, a utilitarian mind. "I myself," he replies to the schoolmaster, "was taught under that system of Greek and Latin. Of what use are those languages to me now? If I write a letter to Berlin, I do not write in Greek or Latin, but in German, which was not taught at school in my time, but which I picked up in a few weeks by living abroad, showing how easily I could have been taught it at school. Why waste a boy's time with teaching him two languages he will never use when he is a man?" The schoolmaster's reply is clear enough: "But he will use them when he is a man. Not, I grant, in speaking or in writing; not, perhaps, much in reading. He will use them without realizing it. The study of them will have taught him to write and to think clearly; by exercising his powers of mind, it will enable him to form correct judgments of things unfamiliar to him. He will have been taught how to learn, which is the greatest thing I can teach him. You yourself," he might add, "are a case in point; you think that the hours you spent years ago over Latin and Greek were wasted, but it was precisely the 'wasting' of those hours which enabled you to pick up German in a few weeks by living abroad. We do not claim to be able, nor do we wish to be able, to supply your son with something for which you can see an immediate return in cash. We take longer views, and in preference to teaching, say, this or that fixed number of subjects, our aim is rather to give those under us the capacity to comprehend all subjects."

Now granted that this is the attitude towards the question of a "classical" as opposed to a "modern" education adopted by the classical schoolmaster, is it logical, when given

the choice, or the necessity if you like, of dropping one of the two dead languages at present taught, to drop Greek in preference to Latin? For what is the main argument of those who advocate the teaching of dead languages as the base on which to build a system of education? First, they argue, the mental discipline of mastering an exact language—no modern language being exact—is the best possible training for the delicate machinery of a boy's mind. Second, they urge, it is by acquaintance with these two dead languages, Greek and Latin, that a mind is capable of attaining culture; that is to say, that in Greek and Latin is to be found the expression of the highest thought; nobody can be said to be thoroly and liberally educated who is not familiar with the original language and writing of the greatest thinkers of the past. There is much to be said for the second claim, tho it would be impossible to deny the possession of culture to a man thoroly conversant with, say, Shakspere, Bacon, Milton, and the Bible, yet ignorant of Greek. Still, it is difficult for anyone who has read Homer or Æschylus or Sophocles only in a translation to gain a proper conception of the height and breadth and beauty of Greek thought. But, it may be truly urged in reply, the percentage of Englishmen who are capable of appreciating at its proper worth, let us say for the sake of example, Wordsworth's "Ode on the Intimations of Immortality" is very small. How, then, and at the necessary expenditure of considerable pains, are a large percentage of Englishmen to be expected to arrive at a proper appreciation of the splendor of the Iliad or the Agamemnon? The answer is, undoubtedly, that only a small percentage of Englishmen—that is, in the case with which we are dealing, a small percentage of undergraduates—as a fact, will and do arrive at that proper appreciation. The majority cannot and do not rightly value Homer and Æschylus and Plato. If, then, out of any given hundred young men only a few are likely to gain real culture by the study of the Greek masters, to what argument, considering the question from the classical educator's point of view, do we at last come? To his first contention,—namely, that the study and the analysis of classical writing are the best possible mental training. But that brings us once

more to the question: "What is the exact difference in value between Latin and Greek? Suppose that it is found that there is not enough time to study both languages, and that consequently one of the two must be given up, which ought it to be?" It is there that the bystander, so to speak, finds the desire to drop Greek illogical.

For the giving up of one of the two languages is urged on utilitarian grounds. "You must give up either Latin or Greek," the utilitarian says to the classical educator. "I think you ought to give up both. But you must give up one. Which is it to be?" The classical educator replies that it shall be Greek. But why? He retains both languages in his curriculum for two clear reasons,—first, because they supply a valuable form of mental gymnastics; second, because an acquaintance with Greek and Latin is necessary to a proper understanding of Greek and Latin literature, which understanding, in turn, is necessary to the cultured man. Then if he is told, and if he acquiesces in the idea, that he must give up one of the two, why does he give up Greek? On his own showing, Greek is the more valuable language of the two. It is the harder; the mental gymnastics of it ought to produce the better training. It is the more exact; the precision, for instance, of the small differences in the tenses of the Greek verb is clearer and subtler than the precision of the Latin. The boy, therefore, who is merely to be expected to get nothing better than mental gymnastic exercises from dead languages ought to be exercised in Greek rather than Latin. Again, to come to the classical educator's second plea, that only by knowledge of the original language of the great thinkers of the past a man can properly value, and so become cultured in, classical thought, what is the comparison to be drawn between the fountains at which the classically educated boy can drink? If there is to be a choice between the literature of two languages, to one of which belong Vergil, Horace, Ovid, Lucretius, Cicero, and Cæsar, and to the other Homer, Æschylus, Sophocles, Euripides, Thucydides, Herodotus, Aristotle, and Plato, there is not much difficulty in deciding which literature the world could better afford to lose. In a word, by sacrificing Greek before Latin, the classical educator

in reality gives in to the utilitarian. The utilitarian objects to Greek because he can see no immediate and direct result from learning it; he objects a little less strongly to Latin because he can see that it helps to the learning of modern languages like French or Spanish or Italian. But the case for the retention of Greek, considered from the standpoint of the classical educator claiming to take long views, clearly remains the stronger.

We do not admit, as we have said before, that culture is to be obtained solely from the study of dead languages. The benefit to be obtained, for instance, from the study of our great translation of the literature of the Hebrews must remain unquestioned. As someone once remarked to Samuel Rogers, "there can be no dispute, at all events, as to the inspiration of the translators." But if it is once admitted that the highest kind of culture is to be obtained from the study of the two great dead languages, how is it possible to deny that the culture to be obtained from the study of Greek must be the higher? It is because that question can only be answered in one way that it is difficult to understand the point of view of educators who, admitting the need of discontinuing the study of either Greek or Latin, prefer to drop the finer language of the two.—*The Spectator* (London), November 15, 1902.

The Acton Library

The fact that Mr. Andrew Carnegie purchased the remarkable collection of historical material belonging to the late Lord Acton and then presented it to Mr. John Morley, is well known. It is not so well known that Mr. Morley subsequently gave the Acton library to the University of Cambridge. The correspondence on the subject of the last-named gift between Mr. Morley and the Duke of Devonshire, chancellor of the University of Cambridge, is noteworthy and is given below in full:

MY DEAR DUKE OF DEVONSHIRE: You may have heard some months ago that what I hope will be known as the Acton library passed by the signal regard of a friend into my hands.

For some time I played with the fancy of retaining it for my own use

and delectation. But I am not covetous of splendid possessions. Life is very short, and such a collection is fitter for a public and undying institution than for any private individual. After due inquiry and deliberation, and with the possible reservation of an inconsiderable portion of quite secondary importance, I have decided respectfully to ask the University of Cambridge, in which you hold the high office of chancellor, to do me the favor of accepting this gift from me.

The library has none of the treasures that are the glory of Chatsworth. Nor is it one of those noble and miscellaneous accumulations that have been gathered by the chances of time and taste in colleges and other places of old foundation. It was collected by Lord Acton to be the material for a history of liberty, the emancipation of conscience from power, and the gradual substitution of freedom for force in the government of men. That guiding object gives to these sixty or seventy thousand volumes a unity that I fain would preserve by placing them where they can be kept intact, and in some degree apart. I am led to believe that at Cambridge this desire of mine could be complied with. There is no other condition that I wish to impose.

In this way, I believe, Cambridge will have the most appropriate monument of a man whom, tho she thrice refused him as a learner, she afterwards welcomed as a teacher—one of the most remarkable men of our time, extraordinary in his acquisitions, extraordinary in the depth and compass of his mind. The books will, in the opinion of scholars more competent to judge than I, be a valuable instrument of knowledge, but that is hardly all. The very sight of this vast and ordered array in all departments, tongues, and times of the history of civilized governments, the growth of faiths and institutions, the fluctuating movements of human thought, all the struggles of churches and creeds, the divers types of great civil and ecclesiastical governors, the diverse ideals of states—all this will be to the ardent scholar a powerful stimulus to thought. And it was Acton himself who said that the gifts of historical thinking are better than historical learning. His books are sure to inspire both, for multitudinous tho they be, they concentrate the cardinal problems of modern history.

I need not say that it will be a lasting pride and privilege to me that my name should, even for a transitory moment, be associated in the mind of the University with the establishment of the Acton library within the precincts of a home so famous. Believe me to remain, yours sincerely,

JOHN MORLEY.

To this the Duke of Devonshire replied:

DEVONSHIRE HOUSE, October 21, 1902.

MY DEAR MORLEY: I have received your letter of Monday, in which you offer the Acton library as a gift to the University of Cambridge. As chancellor of that University I feel confident that the competent authorities will accept your splendid donation with the greatest gratitude, and that they will do their utmost to carry out the one condition attached by you to the gift in such a way as to be satisfactory to yourself. The presence of the library at Cambridge would be a perpetual memorial of one of

the most distinguished of the many men who have devoted their talents to the service of the University, and I thank you for having made me the channel thru which this act of rare generosity on your part may be communicated to the University. I remain, yours sincerely,

DEVONSHIRE.

The arrangements for the Boston meeting of the National Educational Association in July next, as thus far announced, give abundant cause for satisfaction. The fact that the eighteen department presidents will meet with President Eliot in Boston to confer as to the program should be productive of admirable results. Such a conference ought to give to the entire program for this meeting a harmony and a unity that it has hitherto lacked. The dates for the meeting are July 6 to 10, inclusive. But five general sessions will be held, and these will be on the evenings of Monday to Friday, inclusive. The mornings of four days—Tuesday, Wednesday, Thursday, and Friday—will be assigned to the department meetings, between which there will therefore be less conflict than heretofore. The afternoons, thus left free, will be devoted to special excursions, under the conduct of competent guides, to the nearby points of historic and literary interest. This will be a rare opportunity for thousands of teachers to whom Boston and its vicinity are wholly unfamiliar.

EDUCATIONAL REVIEW

FEBRUARY, 1903

I

CO-EDUCATION IN THE UNITED STATES[1]

My theme is not of my own choosing. New England ears are quick to catch any rustling in the Western treetops over co-education. There has been a little, a very little. There was more than there is now when the leaves were all out in August, and you called me on a long wire in the glorious New York mountains, to join my esteemed neighbor, the President of the University of Chicago, and present an address in your course upon the subject. My regret is deep that President Harper cannot come at the appointed time, and that you are not to have the benefit of his discussion, for we all know that it would be illuminating, and I am sure that it would clear up some misconceptions and give double weight here in New England, where it is most needed, to a widely, tho not universally, accepted doctrine in American education.

Few educational people are free from bias upon our subject. Such as have had most to do with institutions exclusively for men, or exclusively for women, are likely to favor their policy, while others who have been associated with co-educational institutions think their policy the really wise one.

But no matter what leanings one may have, he can hardly deny that the policy of educating boys and girls, young men and maidens, and grown men and women together is overwhelming in America.

In the elementary schools it is, in the words of the justly

[1] An address before the Twentieth Century Club, Boston, Mass., January 17, 1903.

distinguished Commissioner of Education, "practically universal and excites no comment." It is true that there are rare exceptions to this in two or three Eastern cities, due to accidental conditions, such as the location or structure of schoolhouses, or possibly they may be survivals of the feeble beginnings in the public-school system when there was doubt about the public education of boys, but certainty that it was not proper for the public to educate girls at all. Regardless of these, the remark of the Commissioner is abundantly justified.

Practically the same conditions prevail as to the public secondary schools. In all but 12 out of 628 cities having high schools in 1902 those schools were co-educational in character. In ten years the exceptions have dropped from 15 to 12. Here, too, the exceptions seem to be due to exceptional circumstances, such as the survival of primitive efforts, or dense population and public convenience, or the opening of manual-training or other schools in which but one sex would be mainly interested, and have but little bearing upon the broad question of the wisdom of co-education.

When we come to the higher institutions the exceptions are much more numerous, but still comprise considerably less than half of the whole number. The advance sheets of the report of the Commissioner for 1900-1901, with which I have been favored thru the courtesy of Dr. Harris, specify 647 institutions of college grade, of which 137 are open to men only, 132 to women only, and 336 to both men and women. All of the earlier colleges were exclusively for men. In 1870 the men's colleges comprised 69.3 per cent. of the whole number for men and for men and women together: in 1880 they had fallen to 48.7 per cent.; in 1890 to 34.5 per cent.; in 1900 to 29 per cent.

This brief statement certainly warrants the statement that the policy of the co-education of the sexes of all ages and in all grades of school is overwhelming in America.

Allusion has been made to early conditions which stood in the way of girls in the early primary and then in the early secondary schools. Democracy triumphed over those conditions long ago. Similar and even more stubborn obstacles

stood in the way of collegiate training for women. The common thought of the whole world was against it. There are as many colleges exclusively for men as there are only because they were established before, or they were established by men who had their educational outlook settled before, there was any serious thought of giving college privileges to women at all. The decline in the relative number of men's colleges is due in some part to the admission of women to the older institutions, but in larger part to the founding of new institutions for both in the newer and freer States. Democracy has broken thru tenacious conditions in the East; she has had her free way in the West.

We shall not get into the heart of this subject at all unless we have in mind a fascinating story. The education of the mass has not been and is not yet a world policy. Wherever it has come to be a national policy it has been made so by the political power of the common people. This is none the less true when it has been grudgingly conceded by an autocratic government or an aristocracy of wealth, because of the apprehension of danger from the ignorant crowd. The power of woman was not recognized as early as that of man, and opportunites, from the lowest to the highest, for her enlightenment have lagged behind those for man.

The reasons for the historic evolution of the schools are obvious enough. In the long years while physical force fixed the boundaries and settled the course of empires and whole peoples blindly submitted to the rule of one man or of a few men, and the right of absolutism descended by inheritance, there was reason enough why the mass should not be trained to anything save effectiveness in battle, and why even the intellectual quickening which might come out of that poor privilege should be denied to women. It was natural enough that such conditions should make woman the mere supporter and subordinate, the toy and task-bearer of man. It was logical and convenient enough to continue and establish in the law of the land the subordinate status which these conditions had given her even after legislative assemblages came to be a necessity with princes, and the more or less comfortable fashion

of having laws of some kind forced its way upon the society of the polite.

Our English forefathers, from whom we brought all the law we had when we left the household, fixed woman in their law, and so in ours, in a way which left nothing in the way of temerity to be desired. It is comforting to know that the world was relative then as now, and that they had advanced even farther than the forefathers of other peoples at the time when English law began to form. How far they had advanced is seen from the assurance in the Magna Charta which was wrung from the king "in the meadow called Runingmede," that "a widow may remain in the mansion of her husband forty days after his death," and that "no widow shall be destrained to marry herself so long as she has a mind to live without a husband, but she shall give security that she will not marry without our consent." If the men looked after the women in such matters as marriage and property, it is interesting to note that they looked after themselves quite as well, for they also made King John promise "that no man shall be taken or imprisoned upon the appeal of a woman for the death of any other than her husband."

About the only right our foremothers had was the right to live and be our foremothers. Indeed, the law knew nothing of them beyond keeping their marriage within the control of the king, or the lord of the manor, until they took the step which conferred upon us the high privilege of being here. After that if by any chance they had personal property, it became the husband's absolutely. So with real estate; he could alienate it by deed or by will. Man and wife were in no sense equal before the law. Their lives were legally merged in one, but the one was not a new creation: the one remained the life of the man. And the law made him about as troublesome to her after he was dead as when he was alive. If he left any property when he died she could claim the income of one-third of it, and no more, during the ordinarily brief time while she remained his widow. If she had brought the property to him when she married him, or if they had accumulated it together, it made no difference. If he failed to sell it or give it away in

his lifetime, or neglected to dispose of it by will, the law came in at his death and considerately corrected his oversight in his interest. She could not make a will at all. He could give or will her property to his relatives. Her services and earnings were his. She had no right of control over the children, except in subordination to him; the income of their labor, as well as of their mother's, was his. He had the right to chastise not only them, but their mother as well. Often the man was so sane that he did not think of going to the limits of this insane law; and sometimes the woman was so strong that he considerately waived his technical right for considerations which were both obvious and conclusive.

So long as all this could persist, no one, not even woman herself, could think of the education of woman. And it did persist until democracy, without chart or plan or understanding of what the end would be, merely obeying the conscience and using the force of the mass, bore down the unbroken traditions of a thousand years. Our often-deprecated much legislation is entitled to the credit of it. The statutes of our many States, a little here and a little there, copying and advancing upon one another, have made the legal rights of woman about the same as those of man. Where not fully equal they will yet be made so.

No one can doubt the cause of this, for wherever democracy has had any development in the world, even under autocratic or aristocratic forms, there the rights of women have been enlarged. The opportunity has been so much larger and the advance so much stronger in America than in any other land that we have become conspicuous in a world movement. But the movement is on, all over the world. It is one of the great strides to the high destiny of the race. Ill-advised selfishness was able to keep the mass in ignorance of natural right thru long, long years, but the dawn of a glorious day came at last, and the sun of promise is now well up in the heavens.

Naturally there has been some illogical reasoning, some irrational misconceptions about it all. Confusion about personal rights and public duties has arisen. Because a woman has the right and should have the opportunity to make the

most of herself it does not follow that she should serve in the army or the jury box. It would be a brutal view that because she should have the same opportunities as men for moral and intellectual advancement she should be made to stand while a man sits in a street car, or in any other way bear a man's part in public places. The opening of the advanced schools to woman has nothing to do with imposing the franchise upon her.

Woman is by her very nature fitted for certain functions and man for certain other functions in the social economy. Each class of functions and the inherent rights of each sex claim as a right the best that the schools can give. But it does not follow that each is to bear the same burden. The essence of government is protection. Voting, serving in the legislature, is sharing in government. It is a burden, not a right. When it comes to bearing burdens, man is to do what he can do best and women what she can do best. Man is the natural protector, the natural voter. Physiological and social considerations come in. Because men do not always vote as safely as they ought it does not follow that women would do it any better. There is some reason for fear that they might not do it as well. Because a few men and a few women want to change the political order of things, and what seems to me to be the natural order of things, it by no means follows that it should be done. When the majority of the most substantial women want to take up the burden of managing government the majority of the men will doubtless be willing. It is a matter of expediency, and if that time ever comes the men will probably agree.

But natural rights are not to depend even upon majorities. They are to inhere in everyone and be enforceable by everyone regardless of sex. Participation in government is not necessary in order that woman may secure her rights. The sufficient proof of that is found in the fact that the widest range of civic and political rights conferred upon woman in all the world, or in all time, has been given in this country, not by princes, or by judges, but by the plain, common, blundering men. They do not always blunder. Acting in the mass, and

after discussion, they do not often blunder. They have not blundered in this matter, for in the social economy woman must bear responsibilities quite as important to the common good, and claiming quite as high an order of moral and intellectual aptitude, as the burden of protection against the external and internal enemies of the social order which logically falls upon men.

Because in the economy of our social and political life woman must necessarily have the same educational rights as man, co-education has become the overwhelming educational policy of the country. Those rights can be completely secured in no other way. It may not be necessary that men and women shall study the same things or recite in the same classes, but they must have the right to do so. Whether they will take the right is not to be decided for them by men. They are to decide it for themselves. Conditions and influences will aid the decision by giving rewards when it is wise, and inflicting failures when it is mistaken, but they must have the right to make the election for themselves. Private or local institutions may appeal to a class and find constituents. No harm results. But the great universities, even those upon benefactional foundations, are not private or local institutions. Their own wise course has taken them out of that list. Public institutions, either those supported by public moneys, or which have become public by reason of long life, wide constituencies, and splendid public service, cannot be at odds with the accepted political theories and the common educational policy of the country.

The extent to which provision for popular education, primary, secondary, and higher, has followed closely upon self-confidence in democratic life is an interesting study. The way in which educational equality has accompanied the extension of political rights to women is no less interesting. A hundred years ago such discussion as there was concerning the education of girls related not to the colleges, but to the elementary schools. The Massachusetts town which is now the seat of one of the foremost woman's colleges in the country voted in town meeting that it would not be proper to use public moneys

to give schooling to girls. In Boston girls were not admitted to the public schools at all until 1789, and for only half time until 1828. The first high schools were opened before the public was accustomed to anything beyond the rudiments for girls, and were for boys alone. When a high school was opened for girls they came in such numbers that the mayor was simply paralyzed and closed the school in despair. There was nothing strange about this halting of thought over the education of women. It took time to become accustomed to the idea. But the idea had to go. Provision must be made. In the larger cities it was first made by separate secondary schools; when schools were opened in the newer parts of these growing cities they were for both sexes. It was so in the newer towns of the older States, and universally so in the newer States.

Harvard College was founded before the time when the dandies at the court of Charles II. thought the women were sufficiently educated if they could spell out the recipes for puddings and pies, and all of the earlier American colleges started before Mrs. John Adams wrote, "female education in the *best families* goes no further than writing and arithmetic, and in some few rare instances music and dancing." Of course those colleges were for men alone. And for men alone they long continued. But the logic of events created a demand for college privileges for women which must be met. It was met in four ways: (*a*) by establishing colleges exclusively for women, (*b*) by opening new institutions with equal rights for each sex, (*c*) by admitting women to men's colleges on equal terms, and (*d*) by setting up annexes or independent women's colleges with some form of organic union at the larger universities.

Some of the women's colleges were the outgrowth of seminaries for women established to prepare women for teaching, or to prepare them for polite society, before there was any thought of real college work for women. Some have been established at a later day to meet a definite preference. Doubtless it would be distinctly asserted by all the women's colleges that they are intended to meet the ideas of people who do not

want their daughters educated in association with men, and prefer that they shall have an education of a different kind or with very different shadings from that which men would have at all. It is a matter of preference. Sometimes it is a matter of convenience. Often it is a matter of daughters. In any case it is all right. The work is substantial. Much good and no harm results. No one resents the exclusiveness. There is nothing there any man wants which he cannot get easily elsewhere, unless it is one of the daughters, and he gets her if he ought to have her.

The concessions which the larger universities, accustomed to the old ways, have made to women are all that could have been expected. They are more than have been made by the universities in other lands. They are proof of the influence of democratic society and of the irresistible impulse for educational equality in America. Whether the arrangement will long continue, or will go farther, whether universities will permanently remain half male and half female, may well be a subject of conjecture.

There are quite a number of institutions—more than some would remember—of the Roman Catholic Church which admit only men for reasons peculiar to the tenets of that denomination.

But by all odds the greater number of colleges and universities, save these, practically all founded in the last generation, afford equal privileges for each sex. Leaving out the institutions of the Roman Catholic Church, and a very few other denominational institutions started very early, it is difficult to find an institution of college or university grade west of the Alleghanies which is not co-educational.

The higher learning in America will always owe much, doubtless more than we shall always remember, to the different religious denominations for the innumerable colleges which they placed all over the public domain while American institutional life was really getting upon its feet. Many of them were not more than high schools. Some are not yet. But their number was large and their purposes of the best, and they gathered up the best they could find in the pioneer days

for the higher intellectual and spiritual life. Practically all of them are co-educational.

With full appreciation of all this, and with no less appreciation of what private munificence has done for the higher learning thru a small number of conspicuous new foundations, it may well be said that by all odds the most important factor in the enlargement of college and university work in America has been the State universities and the institutions founded upon the national land-grant acts. They are all co-educational. Institutions supported by public moneys could not logically discriminate between citizens, in educational privileges at least. They came at the rise of the tide in public sentiment concerning the natural rights of woman, and there was no occasion to discriminate against her. Indeed, the great West would not permit it. Tax-supported colleges and universities, with the best that the common means could provide, and equal privileges for all, were the natural and inevitable response to that aggressive democratic sentiment which prevails everywhere beyond the Alleghanies.

Too many in the East know little of the strength or the import of this mighty manifestation of the common impulse of really democratic society towards the higher learning. It is not a heedless impulse. Equality of opportunity is the very gist of it. Fullness of information and freedom of thought are the very soul and spirit of it. Work which bears upon the vocations of the people and a philosophy which squares with life are the sum and substance of it. It was born of mistrust of the ideals and the philosophy of private institutions, and it has already had a decisive influence in recasting universities established upon traditional lines.

Your first question would be, "What about *politics* in the State universities?" There is none. I am not such a novice that I do not recognize Old Politics when he obtrudes, and I have never seen him in any of the affairs of the University with which I am associated. He broke into the board of trustees of an agricultural college in Kansas once, and the common indignation was so decisive that Chancellor Strong of the University of Kansas could say in his inaugural the

other day, in the presence and with the acclaim of all the prominent men of the State, "Any political control or influence in the management or policy of an institution of learning brings calamity in its train. The University must stand for the State as a whole, absolutely irrespective of religious creeds or party politics."

The outlook of a board of trustees elected on the State ticket, or appointed by the Governor, is of course not the same as of a board appointed by one man or by itself, but the common intelligence would not permit one, more than the other, to put a university to partisan uses. There are more advantages than disadvantages in democratic as compared with autocratic government inside as well as outside of universities. Putting it just as mildly as the truth will permit, there is no more interference with the freedom of teaching in universities supported by public moneys than in those depending upon private fortunes.

The growth of these institutions is not the least remarkable development of our wonderful country and our marvelous times. There are more than sixty of them. If you name the eight largest universities, in instructional force, in offerings, and in attendance, you will have to include in the number five State, or land-grant, universities. In the year 1900-1901 there were in institutions of this class in only the ten States central in the Upper Mississippi Valley 23,480 students, after excluding all not registered in the collegiate, professional, and graduate schools. We should doubtless have to add twenty per cent. to arrive at the number now. Between 1890 and 1901-1902 the University of Michigan moved up from 2420 to 3709, the University of Wisconsin from 966 to 2619, the University of Minnesota from 1183 to 3550, the University of Illinois from 519 to 2932. Many others advanced in like proportions.

If anything were needed to settle and clinch the matter of absolute educational equality in America, and to disprove the dangers or difficulties of co-education, this great movement did it. There is nothing like a practical demonstration to double up the theories of people who know so much that is not

so, of things they never saw. In all of these institutions and in hundreds of other institutions, and in all parts of the country, young men and women are mingling in perfect and proper freedom.

With the conditions in one of these institutions I am entirely familiar. For the most part the men and women live in separate homes, boarding-houses, clubs, or fraternity houses. Wherever the women live by themselves in a club or fraternity house, *i. e.,* outside of the life of a family, they themselves arrange for proper chaperonage. The common sentiment of the community exacts this. A University Dean of Women acts as their friend and adviser, but not as their superintendent. In work there is absolute equality. They search for the truth in the same library, and tell what they have found, or reveal how much they have not found, in the same classes. They of course have separate gymnasiums, and often naturally prefer separate playgrounds. Yet they play games together in the open air, late in the afternoons, when the weather permits. They very commonly go in couples to the athletic field to see an intercollegiate contest, or to the Armory on a Saturday afternoon once a month to a military hop, or to University events in the evenings. By common consent all social functions are arranged for Friday evenings or Saturday afternoons and evenings. There are no rules to dare breakage, and there is no spying to stir indignation. There is a lot of sense and not a great deal of foolishness about it all. There has never been one serious scandal. Of course there may be sometime. But, on the whole, I believe these young people are quite as safe in this environment and atmosphere as in their own homes. All that that atmosphere is doing for them has as much protection in it as the uncertain oversight and slender authority of fathers and mothers at the age when young manhood and womanhood has arrived. And it has infinitely more incentive and inspiration in it.

Yes, marriages often follow after college days are over, but it is seldom that either party gets a stick or a poltroon without being chargeable with notice, for University sentiment has fixed the status of each beyond a peradventure. Ordinarily

each party will get a sane, substantial, true, and hard-working associate; and ordinarily they will prove to be the best intellectual leaven in the neighborhood mass.

I am not unaware that there has recently been something of a newspaper and magazine reaction against co-education. There has been small ground for it, but a small reaction can be started in the newspapers and magazines upon a very small foundation. The small ground in this case is in the talk or acts of the authorities of two or three conspicuous universities which have been misunderstood, and perhaps in the execrable manners of a few college dudes which have no doubt been exaggerated.

At the Stanford University in California it has been decided to limit the attendance of women students to the number of five hundred. President Jordan says that this was because of views expressed by Senator Stanford in his lifetime, and which his wife has felt bound to carry out, touching the organization and offerings of the university, and had nothing to do with the matter of educating the sexes together. He adds that he believes "with the fullness of certainty that better results can be obtained, mental, moral, and physical, in co-education than in any monastic form of instruction," and that "Co-education is never a question where it has been fairly tried."

Speaking of Stanford University reminds many of us of a story which is certainly very good, only as a story, but which is thoroly unjust in the light of its implications. Will you generously pardon my going out of my way to explode it? It has gone the round of college circles that when Senator and Mrs. Stanford were thinking of founding a university in memory of their lamented only child they visited Harvard and with a commercial instinct, smacking of the vulgar, demanded of President Eliot what "the plant of Harvard University had cost"; that he had difficulty in answering, but finally was forced to say that perhaps the brick and mortar and books and appliances had cost in money ten or twelve million of dollars; that thereupon the wife looked at her husband in triumph and said, "Well, Leland, *we can do it.*" The Stanfords went to California from the city in which I have lived nearly all my life,

and it was so inconsistent with my knowledge of them that, a year or two ago, I ventured to ask the President of Harvard about it, and was surprised and gratified to find that he had never heard of it. He said it was true that Senator and Mrs. Stanford were his guests at the time they were considering the matter; and he repeated a very natural conversation between them and himself concerning it. I have recently asked his permission to state the substance of the conversation, and he has kindly consented and given it to me in writing. I therefore use his own words. He says:

"Towards the end of the long interview to which you refer Mrs. Stanford asked me, 'What has the entire plant of Harvard University cost?' I explained that it was difficult, indeed impossible, to answer that question with precision, because the University had received in two centuries and a half many gifts of lands, buildings, books, and apparatus, which were not valued in money either at that time or since, and then added that I thought ten to twelve millions of dollars a reasonable valuation at the present time, but that the value of the libraries and apparatus could only be guessed at. Thereupon she said very quietly to her husband, 'Then if we could put in five millions now and five millions five years hence we could do something.' Her language and her manner were not in the least commercial, or vulgar, or boastful. Quite the contrary. She asked a sensible question, and stated correctly a just inference from my answer."

This certainly looks very natural and very creditable to a woman who is pre-eminent in her goodness of heart and in her giving to higher education.

But to come back to our subject. Northwestern University, hard by Chicago, has been forced to some meditations by reason of the number of women attracted by the special advantages offered to women. No one has thought of departing from the unalterable co-education policy of the university. There is too much Methodism and too much democratic patriotism in the constitution of Northwestern to make such a thought permissible. The only question, and that a small one, concerns the preservation of the equilibrium of the sexes rather than the elimination of one of them.

But the University of Chicago has, in the last year, if we may judge from its just published statement, been giving itself over to much intellectual entertainment upon this subject, and has finally, by a preponderance of opinion not conclusive, determined to separate recitations on the line of sex for perhaps two-thirds of its students in the first two years of the college course.

It is unfortunate that I cannot present the statement of the university in its own words, but its elaborateness precludes. This much may doubtless be said without injustice, from condensation. The university is co-educational, and has no thought of anything else. Its charter declares its object to be to furnish opportunities of higher education "to persons of both sexes on equal terms." It does not think that "equal terms" means the same classes, and that there are some reasons which make separate classes in the first two years desirable. Some of these reasons arise out of special circumstances at that university. It declares its unalterable purpose to provide exactly equal privileges for each sex. It distinctly says that one policy is not intended for women and another for men. The plan does not contemplate separate faculties, or a faculty with a preponderance of women for women students, or "instruction for women after the fashion of a so-called annex," or separation of men and women in public exercises, or the application of separate rules for men and women, or any "deprivation, so far as either men or women are concerned, of any educational privilege now enjoyed, unless co-instruction be so considered."

Happily the university does not intend to set up "artificial barriers to prevent men and women from every reasonable kind of association," or the "separation of the younger women from the older ones in residence halls." This declaration releases the tense feelings of the friends of the university. From all the loose talk of recent months we began to fear that the authorities of that university had gone stark mad, and were intending to separate its fair students into divers groups on the basis of age and intellectual attractiveness, and then going to keep out all students of the male persuasion and the baser

sort by fences of some kind, without seeing that the height of the fences would have to be graduated on the comeliness of the groups, and without realizing the engineering impossibility of building fences high enough to meet the needs where caution was most imperative. Indeed, there was some reason to fear that the men and women who are managing that university had forgotten all they knew in their younger days, and were going the lengths of trying to keep a young man and young woman of intellectual pursuits altogether apart, even after they had found something decidedly interesting in each other, without knowing that the fence which could make any pretense of doing that must have its underpinning in wet earth and its pickets in the blue arch of heaven, and that the faculty which set it up would have to call on the Chicago police and the *posse comitatus* of Cook County, and the Militia of Illinois, and the United States Regulars, the veterans of two wars, at Fort Sheridan to maintain it, with the chances ten to one that in the end the whole combine would go down in humiliation before a force that is over and above and independent of universities. But save the mark, the very thought of it was all unjust.

But, with so much gone out of this matter, it will be difficult for most of us to see what is left to justify separate instruction and recitations for two years and no more. There is nothing very objectionable in the arrangement under all the explanations and assurances, but why make the explanations and assurances necessary? Why, for slight reason, take a course which must very naturally provoke endless and irritating question as to whether the sexes have equal privileges? Why have to defend the apparently illogical position that co-education is the natural method for conducting educational work up to the time of going to college; then it is not so for two years; and then it is again for the last two years? And if the association of the young men and women is to be interrupted only so far as recitations are concerned, why do away with it in the only place where each gets the benefit of the serious work, measures the intellectual capacity, and sees the moral attitude of the other?

The wiser course is upon lines parallel with the highways of Nature. She helps us on our way if we do not cross her tracks.

The less of the artificial and the unnatural in educational work the safer we are. It is not uncommon to think some other arrangement than the one we have is better than the one we have, because we know the difficulties of our own organization better than those of one that is far away or yet untried.

Of course there are some branches in education which appeal to men more than to women, and others which appeal to women more than to men. In the smaller colleges the work is of the kind which meets the need of students of both sexes who go to those colleges. In the large universities there is sufficiently wide opportunity for election. The process of natural selection will take more women than men to some classes, and more men than women to others. Possibly, in cases, some classes will be made wholly of women, and others wholly of men. It is all right. It is natural. There is nothing artificial about it. There is no one to complain, and nothing to complain of.

The point is that there are no general reasons, at this stage of intellectual progress, for the separation of the sexes in education. If either men or women wish to withdraw themselves from working jointly with the others, either wholly or in part, there is abundant provision for their doing so. They are not to force others to do so. Much less are a few managers to force all to do so. It is a matter of personal preference and individual right. The right of the woman to the best there is in college is just as inviolable as that of the man, and it cannot be met unless she may have the same instruction, if she wants it. Physiological, psychological, and social difficulties exist only in the imagination. It has been proved that intellectual and social healthfulness follow the companionship of the sexes in a large even more than in a small institution. If the small colleges choose to keep out either men or women no serious wrong or harm follows, for one may easily get elsewhere all that they can offer. If a woman's college, even of first prominence, continues to exclude men, it does not violate the right of any man, for there are no facilities and there is no teaching there which is not quite equaled in the leading universities, unless of a class which none but women want. But if the great universities have equipments which the women's col-

leges cannot rival, and if their teaching staffs are the very climax of the work of the great universities since the beginning of universities, and if women are to be denied the advantages of this, wholly or in part, it is taking away a substantial right which is hers under all the theories of our government, and which all the interests of our democracy loudly demand that she shall have.

Of course, also, a co-educational university in a large and co-educational city, with an immense number of young women at its doors who may pursue study while the young men must pursue work, is quite as likely to have occasion to think of ways and means for keeping up a parity of the sexes as of maintaining a parity of rights between the sexes, unless it can offer special advantages in technical and professional lines which will attract men from afar. It is one of the penalties which offset some of the compensations of a city location. But the disadvantage is likely to be overcome where it is very important that it shall be.

A writer in a recent number of the *Outlook* alleges that the men in co-educational institutions resent the presence of women students and treat them badly, ostracising them socially, inviting their sisters and sweethearts from home in preference to their feminine classmates to the social functions of their classes. He thinks the reason for this dreadful state of affairs is the extent to which women are taking the places of men in efforts to gain a living. He cites the State universities of Michigan, Wisconsin, and Minnesota in proof.

It is safe to say that there is very little, almost nothing, to all this beyond the fact that some young men are as civil to their own sisters as to other fellows' sisters, and that some college men do have sweethearts at home and are happy in according them a sweetheart's right.

I have never seen any bad treatment of college women by college men, beyond a meaningless college prank sometimes carried to excess, and have seen much generous consideration, prompted by unselfish manliness, for them. I have never heard of any resentment, or uncivil ill usage, at Michigan, Wisconsin, or Minnesota. The presidents of those universities

never have. President Angell writes me: "The only remark concerning us implies that at the annual class functions the young men invite ladies from abroad rather than students as their partners. We do not consider this a very tragical matter. We have seen no reason in the situation of affairs here to depart from our old usages. The discussions which have become rather acute in some quarters have not attracted much attention at this institution. We see no cause to make any changes in our arrangements or for anticipating any embarrassment on the subject."

President Birge says: "The young women have always been accorded fair and just treatment by the young men at this university."

President Northrop writes: "The girls in this university make no complaint, and have no cause for complaint, in reference to the treatment they receive from the boys. As a rule, there is the utmost courtesy and kindness between them, and the relations which have been pleasant in the home and in the school are equally pleasant in the university. The talk about women descending from the pedestal they occupy at home is nonsense. If it is the main business of a woman to 'occupy a pedestal at home' probably she had better not come to the University of Minnesota, as we do not train for pedestals, but for active, useful, and womanly lives."

In each of these universities, and in several others which accord exactly equal opportunities to men and women, there are between 2500 and 4000 students. As a rule, the sexes are not very unevenly divided. In point of intellectual proficiency there is no noticeable preponderance with one sex or the other. Socially they separate into sets very much as people ordinarily do. There is a "society" set. The numbers are not very large. They manage the social functions, dress well, and have a good time. Some of the lighter-headed ones get in this set and fall short in the examinations, but there are really very few of these. The larger number can regard social life and personal attractiveness without falling down at the end of the semester, and a university owes much to this class of students. Then there is a set who may be called the drudges. Life is

terribly severe with them, and they are indifferent to appearances. It is not due to a want of money so much as to lack of home training and of intellectual fiber. Their number is happily small also. Between these two stands the great body of students, the great middle class, who lead ordinary lives, do ordinary work, mingle in the ordinary intellectual and religious associations, keep things balanced, and develop a very large number of sane men and women who in time transfer the substance which the university did not create, but which it developed, to the social, political, industrial, professional, and spiritual life of the world. It is all very natural, and it is charming and effective because it is nature at its very best.

Perhaps it remains to be said that there are men in the universities, and unhappily they are not all among the students, who are either woman-haters or who satisfy their code of social ethics by chivalrous attention to women on special occasions, and by living like barbarians all the rest of the time. They cannot keep up so much artificial politeness all the time, and the continuing presence of women is an intolerable restraint upon them. Of course they will not say this. Perhaps they hardly know it. Hunger for investigations and discussions which cannot be carried on in the presence of women is but a thin disguise for the natural tendencies of a learned mountaineer. What is scientific is not vulgar, and what is vulgar is not scientific. The vulgar has no place in a university. It has no more place in a man's university than in a coeducational university or a woman's college. The man who wants to smoke in the midst of educational work, or to swear or talk coarsely anywhere, is out of his latitude if in some inconceivable way he has broken into a university; and the natural course of democracy and of education is not to be turned aside on his account.

Let us stand for well-rounded institutions and for equal rights for all. Let us look for the point of equipoise and keep things balanced as well as we can. Let us remember that strength and power are culturing more than polish and culture are strengthening. Let us stand for versatility in the home and in the state. Let us not forget that men and women sup-

plement each other; that each supplies the factors in thought and endeavor, in discretion and stability, in force and progress which the other lacks; and that the great accomplishments in human society have been worked out by men and women of character working in co-operation. They modify and strengthen and regulate and guide one another. The greatest good of the race is to be attained thru the best possible education for both. Why should they not be educated together? Why should the men and women who are to be the greatest factors in our democratic society be educated in conditions which promote self-consciousness and fancy for the life of a club, either a man's club or a woman's club, rather than in conditions which make the recognition of interdependent relations imperative and give the best assurance of intellectual equality and similarity of outlook in the household, and of effective and balanced service in the state?

There is no reason. If there is reason anywhere at all in all the world, there is none here. We have made practical demonstrations and the results are good. We have done more for woman than any other land has done; woman has done more for our country than she has been able to do for any other country. The facts and the reasons are obvious enough. No one, no party or school is going to turn the hands back on the great dial which registers the progress of democratic institutions. We are right, we will go forward. We will not be turned aside because a few men cannot see, or a few women do not use their new freedom rationally. We will go forward, holding out the very highest opportunities to both men and women, and we will do it in a way which will encourage the very highest usefulness, co-operative usefulness, in the home and in the state.

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II

THE REFORM IN SECONDARY EDUCATION IN FRANCE[1]

What France has accomplished in her system of secondary education is more than a reform, it is almost a revolution. The plan of studies, the programs of courses, the examinations and the rewards they confer have been greatly modified. We have sought especially to put into secondary studies more flexibility and variety, and to open up more lines of study to pupils, so that, by allowing them the choice of different groups of subjects, we might better respond to their needs and aptitudes. In this a breath from America would seem to have passed over French thought, and I am proud to have been one of the first in France to ask that, in the reorganization of our instruction in secondary schools, we should look for inspiration to the ideas prevalent in the United States. On my return from the Chicago Exposition in 1893 I wrote:

"We do not hesitate to say that the system of elective courses, which, tho it is employed in varying measure in American secondary schools, yet is practiced everywhere to some extent, imparts to those schools a character of vitality which cannot be claimed for the classes of our French lycées, where pupils of every grade of intellectual worth and destination in society are compelled to follow the same course of instruction, without any sifting or discrimination." Doubtless the system adopted, which is in force in our lycées from October of this year (1902), is not absolutely the elective system. But it approaches it in several points; it breaks with the old, rigid uniformity of a social routine centuries old, and perhaps once it is applied it will lead us on to further modifications that will bring us still nearer to the American plan outlined in reports of your Committee of Ten some ten years ago.

But first a word as to the way in which the plan that was

[1] Translated from the author's manuscript by James J. Finnigan.

authorized by legislative and ministerial action on May 30, 1902, was devised. A parliamentary committee was appointed, more than three years ago, by the Chamber of Deputies, and it has carried on a far-reaching investigation of the condition of secondary education and of the means for improving it. This body called before it nearly all those who, in our country, either as professors, administrators, or as philosophers and educational theorists, were competent to speak upon educational matters. Several thousand persons were summoned, and they expressed with the fullest freedom their opinions, their criticisms, and their forecasts. The evidence adduced from this host of authoritative witnesses was arranged by the commission, and published in five large volumes which form one of the most valuable documents that have been compiled upon these questions. The chairman of the committee, M. Alexander Ribot, an ex-minister and at present a Deputy, made an excellent report, in which he gave at length the conclusions reached by the committee after its laborious inquiry. This report was submitted to the Chamber of Deputies on November 16, 1901, and a second, supplementary report, also by M. Ribot, followed on July 4, 1902. On its side, too, the Ministry of Public Education had set to work. Conferences and discussions took place between the minister, M. Leygues, and the parliamentary committee, and after long deliberations a perfect agreement between the two parties was established and the resolutions agreed upon were made possible of presentment to Parliament. When, after a brilliant debate, the Chamber of Deputies had assented to and passed, in its session of February 11, 1902, the Minister's proposals, the Upper Council of public education, which, as you know, is in our country the great pedagogical authority, took hold of the matter and, following the principles already laid down, drew up the definite regulations which became the legislative and ministerial act of May 31, 1902. Then the Senate was consulted in its turn and gave its approval, and orders were sent by the Minister to the Rectors of Academies [2] to have the new

[2] The whole of France is divided into educational districts, almost coincident with the districts of Courts of Appeals and of Corps d'Armée, and called Academies. At the head of each Academy is a Rector.

plans in execution from October 1, 1902. The reorganization, therefore, is an accomplished fact, and nothing has been neglected that might prepare for it, and make it conformable to the aspirations of the country and to the necessities of modern society. If ever a reform has been studied, discussed, turned over and over in every way by skilled hands, this is indeed that one, and it now stands before the nation with the weight given it by the double approval of the political and pedagogical authorities.

However, it must be admitted that the reform has excited opposition and lively criticism. The professors of the lycées and colleges seem somewhat troubled and anxious over the changes wrought in the existing order of studies, and voices of those competent to speak, such as, for instance, the well-known philosopher M. Fouillée and M. Michael Bréal, professor at the Collège de France, have been raised in protest against measures which, in their eyes, would endanger the future of classical studies. France, in other countries, is looked upon as revolutionary, and it is true, indeed, that her political and social ideas have at times revolutionized the world. But in educational matters she is rather conservative, and even, we may say, given to routine. At bottom, and in spite of much retouching, our system of secondary education is still that of the sixteenth century, and still bears the strong imprint of the Order of Jesuits, and in our methods of primary instruction it has taken us one hundred years to apply ideas already current during the Revolution of 1789. Again, it is only six years ago that we remodeled our higher education by re-establishing the Universities. We must not, then, be accused of hastiness, for it is the contrary, rather, that is true. A Frenchman does not like to be disturbed in his habits, and innovations frighten him. Bold and quick in his theories, he hesitates when it comes to apply them. It is certain that the new form of secondary studies will be a cause of trouble to families and professors, but what matters that, if it better answers the true interests of the young? If we were to allow ourselves to be held back by these considerations, we would never change anything in the established order of things; humanity, like China, would

slumber in eternal routine; railroads would not have superseded stagecoaches, nor the republic have taken the place of monarchy.

We will now state briefly in what the principal modifications resulting from the recent legislation consist.

Cycles—Henceforth secondary instruction comprises two cycles, one of four years' duration, the other of three. The studies are arranged in such a way that the pupil, at the end of the first cycle, has already acquired some definite knowledge which doubtless is small and limited, yet is capable of immediate use, in case he should push his studies no further. In order to define well the separation between the two cycles, those pupils who finish their fourth year are called upon to pass an examination, on the completion of which they may obtain a *certificate of secondary studies.* There is reason to suppose that a certain number of students, those on whom the necessities of life press hardest, or those who have no very decided taste for higher studies, will, after this period of four years, leave the lycée to enter active life and take up a profession.

The four classes of the first cycle retain their present names of sixième, cinquième, quatrième, and troisième.

The second cycle is divided into three classes: the seconde, the première, and, above them, the class of philosophy and mathematics. At the end of this new series the pupils present themselves for the bachelor's degree, which is the final sanction of secondary instruction.

Duration of Studies—The duration of the studies is, therefore, seven years for all pupils who continue their course to the end. It is a year less than in the high schools and colleges of the United States, and in Germany also the period of study is longer. But there is good cause for thinking that seven years are sufficient, and, in any event, the new rule adds a year for the pupils of what we called the "modern secondary" course, the duration of which was only six years. We must thank the reformers of 1902 for having resisted the imprudent impatience of unwise pedagogs who, to fall in with our busy, hurried social order, advocate the expeditious methods of rapid preparation. The virtue of secondary teaching lies, in

large measure, in its duration, in its slow influence upon the intellect. The best teachers need the help of time, if they wish, not to furnish the memory with hastily acquired and badly digested knowledge, but to act upon intellectual habits and accomplish the education of the mind, which is truly the essential aim of secondary instruction.

Sections—It is in this that the great change brought about by the reform appears. For a long time our secondary teaching knew but a single form, the elements of which were Latin and mathematics. Therefore there was only one category of pupils, all subject to one same program. Towards the middle of the last century it began to be understood that the same studies were not suitable for all scholars, and Minister Fortoul, during the Second Empire, conceived the plan of separating the pupils into two sections, beginning with the third class. Some were to specialize in literature, the others in the sciences, but they were all to be united for the common subjects of study, Latin translation and French composition. This is what was called the bifurcation system. Some ten years later M. Duruy, one of the greatest ministers public education ever had at its head, preoccupied by the economic needs of modern society, created alongside the classical course the so-called special course, which, he intended, was to prepare students, by more practical study in the sciences and modern languages, for industrial, commercial, and agricultural pursuits. In 1890 this special course was followed by the "modern course," the creators of which purposed, without the aid of Latin and Greek, to give instruction of a general nature that should not be professional in character, and also might be the equivalent of the classical course. We were, so far, with only two branches in our system, which led pupils to bachelor's degrees that were absolutely distinct and that did not confer the same privileges. Now we shall have four; the system adopted is no longer a *bifurcation,* but a *quatrifurcation.*

In the first cycle, however, where the necessity for the same subjects of study is more imperative, we have stuck to the bipartite arrangement. During the first four years of school two parallel courses will be offered to the choice of families

and pupils; one, Section A, in which, independently of the studies common to both sections, Latin will be taught from the first year, and Greek, but only optionally from the end of the third year (quatrième); the other, Section B, which does not carry with it instruction in Latin and Greek, but in which more attention is paid to the teaching of French, the sciences, and drawing.

The full division into sections comes only in the second cycle. Here four groups of studies are offered to the scholars who enter the troisième:

Section A: Latin, with Greek;

Section B: Latin, with more thoro study of the modern languages;

Section C: Latin, with fuller study of the sciences;

Section D: The study of languages and sciences without a Latin course.

Only pupils from Section A of the first cycle, those who have already studied Latin, may enter the first three sections of the second cycle, where Latin is more or less fully taught. Into Section D will be admitted the pupils from Section B of the first cycle and also those pupils from Section A—and there will certainly be many of them—who do not care to continue their study of Latin.

Let us observe at once how much this division into sections resembles what you intend carrying out in America. Your high schools, with their four years of secondary studies, correspond to our first cycle, and exactly four distinct courses are what your Committee of Ten, in 1893, proposed for high-school teaching when it published its fourth table; the classical course, with three foreign languages, one of them modern (Latin, Greek, and French or German); the Latin-scientific, with two foreign languages, one of them modern; the modern language course, with two foreign languages, both modern; and finally the English course, with one foreign language, either ancient or modern.

There is no need of dwelling upon the importance of the reform. We wished to give the pupils the means of choosing the instruction best adapted to their capabilities and their

presumable vocation and also to the economic needs of the districts in which they live. They will now be able at their pleasure to take one road or another, and so work more competently and more enthusiastically, and succeed better in studies which they have of their own accord preferred to others.

Up to the present time there was in the classes of our lycées too large a number of pupils who followed, with no profit, instruction for which they were not fitted. They encumbered the classes, where they formed a kind of *corpus mortuum* and embarrassed the teacher, whom they reduced to this dilemma, either not to take them into account, considering them a neglible quantity, or, if he wished to be of service to them, to lower his methods of instruction and check the progress of those of their fellow pupils who could and would go on.

With the variety of the many directions which our pupils may take nowadays, we may reasonably hope that every one of the four parallel courses will be made up of a homogeneous group, where there will be fewer laggards and where everybody will profit by the teacher's lessons.

Note too how the optional principle, as made a law in France, differs from what you have set up as a standard in the United States. The French schoolboy can henceforth choose, at least in the latter half of his studies, one of four different ways; but the program of every one of these is fixed in advance and is obligatory in all its parts. With you, on the contrary, a pupil in one section may, if he wishes, take a part from the course of another section. He enjoys full liberty of choice among all the subjects composing the broad, ideal plan of complete secondary education. To make the difference very plain, let us use a comparison. In a French lycée there are, as if in a railway terminus, four trains about to start. In them travelers to the land of knowledge seat themselves according to their preferences. But once they are shut up in their compartments they must go on to the end towards the destination to which the train is to take them. They cannot leave their car at one station or another, to change for one of the other parallel trains. American secondary education affords just this

facility to its students; they have the right, if they wish, to leave the car of the line where they engaged a seat, for another car and another line. It is not impossible that experience will lead us on in the near future to further progress, consisting in the substitution of absolute freedom of election among the different subjects of instruction for the limited choice permitted from this time on; so that there would not be four groups of studies only, but a far greater number of combinations, directed and determined not by an immovable program, but by the free will of the pupils.

Examinations and Degrees—Another difference between the American plan and ours is that in the United States you maintain the diversity and multiplicity of baccalaureates. You have the baccalaureate in arts, corresponding to our former baccalaureate; the baccalaureate in science, the baccalaureate in letters, almost the equivalent of what the modern baccalaureate was in France, and the baccalaureate in philosophy, without counting the degrees in chemistry, mechanical engineering, architecture, agriculture. In a word, you believe that different rewards and titles should answer for different studies. The contrary opinion has just prevailed with us.

We have but one bachelor's degree, the "baccalaureate of secondary education." Doubtless the pupils in the four sections will not have to pass the same kind of examinations. The written and oral tests to which they will be held will vary with the section they have chosen. But, notwithstanding the diversity of examinations, it has been decided that the diploma to which they lead, if taken successfully, will have the same advantages. In short, diversity of examinations, unity of degrees, and equality of the prerogatives attached to them—such is now our scholastic law. The diplomas of this single baccalaureate will open to their holders all the professions, even law and medicine. Till now the bachelor coming from the modern course could not register as a student under the faculties of law and medicine. Among other reasons for this inequality was the fact that the studies of the modern course lasted only six years and those of the classical seven. Now that all courses

are of equal length, and end by equivalent tho different examinations, where the knowledge of Greek and Latin may be replaced by thoro acquaintance with the sciences and the modern languages, we thought there was no longer any great reason for preserving any inequality as to privileges.

Another important change made in the regulation of the baccalaureate consists in having the examination committees *(jurys d'examen)* composed in part—as they have been already for the modern baccalaureate—of secondary teachers. It is well known how much and how justly has been criticised the old system of intrusting to the professors of the faculties, that is, to University men, the charge of creating bachelors. This meant turning them from their true functions, taking them away from higher instruction to burden them for a portion of the year with the weight of examinations of a lower grade of instruction. A German has said: "In France you take the best-tempered razors to cut pebbles."

For the time being it did not seem possible to relieve the faculty professors completely of this heavy task, but in the different juries there will be associated with them professors from the lycées, three of them if the jury has six members, two if it has only five. Moreover, the chairmanship of the jury is always in the hands of one of the representatives of the higher branch of instruction.[3]

Subjects of Instruction—The subjects of instruction have, naturally, remained the same, being those for a long time recognized by all civilized countries as the necessary elements for general culture and the formation of the mind. They have only been divided and distributed differently from what they were in the old program, the number of hours devoted to them having been increased or diminished. The intellectual food is still the same; there are the same dishes as formerly; but they are served on several tables, one dish appearing on the menu of one table and not on another, or, if so, in smaller quantity.

Nevertheless the spirit of the instruction, of its methods and

[3] Observe too that the examinations for the baccalaureate are divided into two series at an interval of a year. The first part is taken at the end of the première class; the second after the last year of study, that of Philosophy and Mathematics.

its processes, has changed greatly. It has been determined to give a practical turn to certain studies. For example, modern languages will be taught, especially from the point of view of their use. Till now, they were taught rather from the literary and grammatical standpoint, and in the modern course they were to take the place of Greek and Latin as instruments of intellectual culture. That is no longer the purpose we assign to them in the new courses of study. Now the attempt must be made to teach how to speak and write them. "The aim which the teaching of a modern language must have, during the course of secondary studies," say the instructions accompanying the legislative act, "must be to give the pupil real and effective mastery of that language. . . The language to be taught, therefore, shall be, not the literary language, but the usual, current speech, that which translates into words all the manifestations of physical, intellectual, and social life. Consequently the direct method must be used, taking as a basis not the mother tongue, but the foreign language. In all the course the teacher will use especially the foreign language; he will forbid himself the use of French."

In like manner, for the study of French, the instructions advise teaching rules by usage. "The teacher must miss no opportunity of showing the pupils that they apply them instinctively. He must constantly connect his instruction with the examples furnished him by the written or spoken language."

Some other regulations give evidence of the positive and practical tendencies of the new plan of studies. For instance, the practical exercises in science introduced in the seconde and première classes, and the teaching of ordinary principles of law in the troisième class of division B. Observe also the innovation of bringing in a course in practical ethics into the quatrième and troisième classes. Up to the present time instruction in ethics was given only in the philosophy class, and then in an abstract and theoretical form. Now, from the first cycle, it will be taught, not by a scientific discussion of the principles of ethics, but by a familiar exposition of the principal duties of man. The program says that this instruction shall consist of "systematic readings, recitations, and talks, planned

to strengthen sentiment favorable to moral development and to counteract opposite tendencies."

The practical aims of the reformers of 1902 are seen finally in the establishment of a special program of studies, an outside section, so to speak, the principal purpose of which will be the study of the modern languages and the sciences especially from the standpoint of their application. This course of studies will be formed for pupils who have completed the classes of the first cycle and who do not aspire to the baccalaureate. It will last only two years, and may vary in its programs according to the needs, the particular industries, and the economic conditions of each district. The programs will be made up by the local authorities and approved by the Minister of Public Education. On the completion of this course the pupils will be called upon to pass an examination, at the end of which a certificate of studies will be given them. This is an interesting first step in the path of decentralization, since this course, opening up a fifth road to students, is not subject to a uniform and unvarying program, but must be adapted, as to the variety of its subjects of instruction, to the diversity of needs of the districts where it is to be given.

Such is, in its entirety, the new plan of studies for our system of secondary education. In constructing it, its authors have also considered its co-ordination with primary education. What you call in America the "articulation of the school with the college" is an embarrassing problem for us also. It is complicated by the fact that the pupils in the system of secondary education, on entering the sixième class, come from two different sources; some are from the public primary school; the others have already had a course of primary studies, lasting usually four years, in the college or lycée. Now the programs of the public school and of the primary classes of the colleges and lycées are not identical in every point. Some years ago, it is true, Latin was done away with in the huitième and septième classes, where pupils formerly began to study it; but in return the elements of modern languages were introduced on the plea that the modern languages cannot be really learned unless one begins the study of them early. Nothing better, if modern

languages were taught also in the public school. But they are not, and it seems impossible that they will be. Another solution would have been to give up German and English in the primary classes of the colleges and lycées. But that has not been decided upon as yet, and with the new plan of studies, which maintain two hours of modern languages in the neuvième, huitième, and septième classes, the difficulty remains. We shall continue to receive into the sixième class, the first one in the secondary course, pupils some of whom already know a little English or German, while the rest have not studied these languages at all and are on an inferior footing as compared with their classmates.

However this may be, we have every reason for expecting the happiest results from the thoro recasting that has been carried out in the economy of our plans of studies. There will be undoubtedly great difficulties, in application, for it is always easier to conceive a reform than to execute it. It will take some time for the teaching staff to fit itself to the new tasks laid upon it. The creation of new officers and also some suppressions will be necessary. The difficulties, moreover, cannot be removed in any other way, if we do not increase the number of new professorships in the modern languages and the sciences, to which the reform gives a much greater field than before, except by uniting the pupils of different sections for those subjects which are the same for all. Consequently there is sure to be some disorder and confusion at first. But gradually matters will be set right and experience will suggest certain modifications in a system which, good as it is, is not, however, either irreproachable or unalterable. We have a proof of this in that the new arrangement has already raised numerous criticisms, some of which may seem well-founded.

The most serious charge is that brought by the humanists of the old school, who feared that classical studies will be endangered and condemned to a fatal decline. Professors who have grown old in the practice of the former methods cry out sorrowfully: "There are no longer any humanities." We, for our part, think their fears greatly exaggerated. Greek will suffer, doubtless, under the new régime, since in the first place

the study of it will be begun only after the quatrième class, and secondly, it will be optional, even for pupils of the division A of the first cycle. But Latin studies will be kept up in all their strength, for Latin appears in the programs of three sections out of four in the second cycle.

In any event, if the changes about to be effected are to work any harm to the prosperity of classical studies, it may be asserted that such were not the intentions of those who proposed and voted for them. The language of the two ministers, M. Leygues and M. Chaumié, one of whom prepared the reform, while the other is intrusted with its execution, can leave no doubt in the matter. Both have loudly proclaimed their faith in classical studies. Said M. Leygues: "The study of Greek and Latin antiquity has given to the French genius an incomparable clearness and elegance. Thru that study our philosophy, our letters, and our art have shone with intense brilliancy, and thru it our moral influence has been exercised as sovereign thruout the world. The humanities must be protected and strengthened against every attack, for they form part of our national heritage." Minister Chaumié, too, the successor of M. Leygues, summed up in these terms the double end held in view: "To seek for secondary education an organization fitted both to satisfy the country's aspirations and needs, and also to continue that high intellectual culture which for several centuries is France's ornament and one of her most precious and dearest glories."

GABRIEL COMPAYRÉ

RECTOR OF THE UNIVERSITY OF LYONS

PROGRAM OF SECONDARY INSTRUCTION

FIRST CYCLE

(Duration four years from the Sixième to the Troisième)

Division A		Division B	
SIXIÈME			
French,	3 hours	French,	5 hours
Latin,	7 "	Penmanship,	1 hour
Modern languages,	5 "	Modern languages,	5 hours
History and geography,	3 "	History and geography,	3 "
Arithmetic,	2 "	Arithmetic,	4 "
Natural science,	1 hour	Natural science,	2 "
Drawing,	2 hours	Drawing,	2 "
Total,	23 hours	Total,	22 hours
CINQUIÈME			
French,	3 hours	French,	5 hours
Latin,	7 "	Penmanship,	1 hour
Modern languages,	5 "	Modern languages,	5 hours
History and geography,	3 "	History and geography,	3 "
Arithmetic,	2 "	Mathematics,	4 "
Natural science,	1 hour	Natural science,	2 "
Drawing,	2 hours	Drawing,	2 "
Total,	23 hours	Total,	22 hours
QUATRIÈME (2)			
Ethics,	1 hour	Ethics,	1 hour
French,	3 hours	French,	5 hours
Latin,	6 "	Bookkeeping,	1 hour
Greek (optional),	3 "	Modern languages,	5 hours
Modern languages,	5 "	History and geography,	3 "
History and geography,	3 "	Mathemathics,	4 "
Mathematics,	1 hour (opt.) + 1 hour	Physics and chemistry,	2 "
Natural science,	1 "	Drawing,	2 hours + 1 hour
Drawing,	2 hours		
Total,	4 hours (optional) + 22 hours	Total,	24 hours
TROISIÈME (2)			
Ethics,	1 hour	Ethics,	1 hour
French,	3 hours	French,	4 hours
Latin,	6 "	Elements of law,	1 hour
Greek (optional),	3 "	Modern languages,	5 hours
Modern languages,	5 "	History and geography,	3 "
History and geography,	3 "	Mathematics,	3 "
Mathemathics,	1 hour (opt.) + 2 "	Physics and chemistry,	2 "
Drawing,	2 "	Natural science,	1 hour
		Bookkeeping,	1 "
		Drawing,	2 + 1 "
Total,	4 hours (optional) + 22 hours	Total,	24 hours

SECOND CYCLE

(Duration three years, from the Seconde to the Class of Philosophy and Mathematics)

SECONDE

SECTION A		SECTION B	SECTION C	SECTION D
Greek—Latin		Latin—Modern Languages	Latin—Sciences	Sciences—Modern Languages
French,	3 hours	3 hours	5 hours	5 hours
Latin,	4 "	4 "	4 "	
Greek,	5 "			
Modern history,	2 "	2 "	2 "	2 "
Ancient history,	2 "	2 "		
Geography,	1 hour	1 hour	1 hour	1 hour
Modern languages,	2 hours	7 hours (1)	2 hours	7 hours (1)
Mathematics,	1 hour	1 hour	3 "	3 "
Physics and chemistry,	1 "	1 "	3 "	3 "
Practical exercises in science,	2 hours	2 hours	2 "	2 "
Drawing,	2 "	2 "	4 "	4 "
Geology (2).				
Totals,	25 hours	25 hours	26 hours	27 hours

(1) Four hours in the second language.
(2) Twelve lectures of one hour each for the four sections.

PREMIÈRE

SECTION A		SECTION B	SECTION C	SECTION D
French.	3 hours	3 hours	3 hours	3 hours
Latin,	3 "	3 "	3 "	
Latin exercises,	2 "	(optional) 2 "		
Greek,	5 "			
Modern history,	2 "	2 "	2 "	2 "
Ancient history,	2 "	2 "		
Geography,	1 hour	1 hour	1 hour	1 hour
Modern languages,	2 hours	7 hours(1)	2 hours	7 hours (1)
Mathematics,	1 hour	1 hour	5 "	5 "
Physics,			3 "	3 "
Physics and chemistry,			3 "	3 "
Practical exercises in science,			2 "	2 "
Drawing (optional),	2 hours	(optional) 2 hours	1 hour	1 hour
Totals,	23 hours	23 hours	25 hours	27 hours

(1) Four hours for the second language.

CLASSES OF PHILOSOPHY AND MATHEMATICS

	PHILOSOPHY		MATHEMATICS	
	SECTION A	SECTION B	SECTION A	SECTION B
Philosophy,	8 hours during 1 semester	8 hours during 1 semester	3 hours	3 hours
Philosophy,	9 hours during 1 semester	9 hours during 1 semester		
Greek and Latin,	4 hours (optional)			
Latin,		2 hours (optional)		
Modern languages,	2 hours (optional)	1 + 2 hours	2 hours	1 hour + 2
History,	3 hours	3 hours	3 "	3 hours
Mathematics,	2 "	2 "	8 "	8 "
Physics and chemistry,	3 "	3 "	5 "	5 "
Natural sciences,	2 "	2 "	2 "	2 "
Practical exercises in sciences,			2 "	2 "
Drawing,	2 hours (optional)	2 hours (optional	2 hours (optional) + 2	2 hours + 2 optional
Hygiene [1].				
Total,	18½ hours + 8 optional	21½ hours + 4 optional	27 hours + 2 optional	28 hours + 2 optional

[1] Twelve lectures of one hour each.

III

THE AMERICAN TEACHER[1]

The right of the state to educate is in this country almost universally admitted. That right rests upon no unsubstantial or visionary foundation. It is implied in the end for which men have established government. The end of government is to accomplish the objects of organized society. Among the chief objects of organized society are, first, the development of the best powers—intellectual, moral, and physical—of the individual; and second, equality of opportunity in the pursuit of whatever makes life worth living. Universal education is the one essential condition under which these objects may be realized. Without universal education there cannot be universal individual development. Without universal education there cannot be equality of opportunity for all. To provide, to insure, and to compel universal education is an undertaking far beyond the powers of any authority short of the state itself. As John Stuart Mill argued, because parents are unable or unwilling to provide the best education for their children, or being able and willing to provide education, do not know what the best education is, the state must undertake the work.

Without universal education, moreover, no government that rests upon popular action can long endure. Where the people are sovereign, the people must be schooled in the knowledge and in the virtues upon which free institutions depend.[2] If for no other reason, public schools are necessary to keep alive the traditions of our history; are necessary lest we forget the glories of Yorktown and Bunker Hill, the principles of the Declaration, and the memories of Washington and Lincoln.

In words of weighty import, Andrew D. White has warned the United States of the danger of neglecting popular educa-

[1] Convocation address at the University of Chicago, December 16, 1902.

[2] Woodrow Wilson, *The state*, p. 667.

tion. "A number of great republics, officered by great men," he has said, "have existed in the world. Their history has been very brilliant, and yet, of them all, only two remain—only two can be said to have lasted." (He regards the republic of France as still only an experiment.) "I am speaking of Switzerland and the United States. Those two republics differ from all the others in only one particular. Other republics have been deeply religious. The republic at Florence was as deeply religious as any community that ever existed. They have had every virtue except an enlightened body of citizens. Switzerland and the United States have that." The lessons of recorded history are in accordance with the theory that the enlightenment of the great body of citizens thru universal education is the sole condition under which a republic can endure.

But then the question arises, What is education? There have been some great definitions of education—all sublimely true, but each open to some objection. When Comenius says, "Things that should be done must be learned by doing"; when John Dewey says, "Education is not preparation for life, it is life"; when Pestalozzi says, "Education is a generation of power"; when Froebel says that education is "the harmonious growth of the body, mind, and soul," we all feel the force of the words, but we also realize that the language is too mystical for general comprehension. Even when Colonel Parker grew eloquent—and when was he not eloquent?—on the ideal school as the ideal community, we could not, when released from the spell he wove around us, help feeling that there was something lacking—that he was describing the ideal conditions for education rather than ideal education itself.

Perhaps the first approach to a scientific definition of education was that made by John Stuart Mill in his St. Andrews address. Education, he says, is "the culture which each generation purposely gives to those who are to be its successors, in order to qualify them for at least keeping up, and, if possible, for raising, the improvement which has been attained." President Butler has shown that there is a scientific basis for Mr. Mill's definition which Mr. Mill himself probably never

suspected, because he never realized the full significance of the doctrine of evolution. President Butler takes as the starting-point of educational science John Fiske's great contribution to the evolutionary theory, that the prolonged period of infancy in the human race which is necessary to bring about the adjustments—physical and spiritual—of the child to its environment, lies at the foundation of the human family, and therefore at the foundation of society and of institutional life.[3] "After the physical adjustment," as Dr. Butler puts it, "is reasonably complete, there remains yet to be accomplished the building of harmonious and reciprocal relations with those great acquisitions of the race that constitute civilization; and therefore the lengthening period of infancy simply means that we are spending nearly half of the life of each generation in order to develop in the young some conception of the vast acquirements of the historic past and some mastery of the conditions of the immediate present.[4] In other words, the doctrine of evolution teaches us to look upon education as the work of adapting and adjusting our self-active organisms to the acquisitions and attainments of the race which have well been called our spiritual inheritances."

Our spiritual inheritances Dr. Butler classifies as our scientific inheritance, our literary inheritance, our æsthetic inheritance, our institutional inheritance, and our religious inheritance. This classification is sufficiently comprehensive. No part of the achievements of the human race—not science, not literature, not art, not history and laws, not religion—may be omitted from the work of education. For one and all of them, if our republic is to be preserved thru the enlightenment of its citizens, if all our citizens are to have equal opportunity for individual development and for advancement, place must be found in the education of the school and the education of the home.

And yet there still seems something lacking. A man may, like Coleridge, have entered generously into the spiritual inheritance of the race, and yet remain an eater of opium and a

[3] Butler, *The meaning of education*, p. 10.
[4] *Ibid.*, p. 13.

dreamer of dreams; he may hide his talent in a napkin and have nothing to show for his stewardship; he may wrap himself in the cloak of selfishness or pour forth his strength in sensuality; and the world is full of examples of men of great intellectual attainments who have oppressed and maltreated their fellow-men; all these things and more a man may do in spite of his intellectual acquisitions, unless he has developed certain qualities of mind and heart without which neither knowledge nor riches avails.

Mr. Benjamin Kidd in his great work on *Social evolution* has, to my mind, made a most important contribution to the theory of education which may help us to find what seems lacking in the definitions of Mill and Butler, and to explain what is mystical in the definitions of Froebel and Pestalozzi. He first shows that the stupendous achievements of the human mind during the nineteenth century in mathematics, in pure science, and in the applications of science to industry, were not the colossal products of individual minds, but "the results of small accumulations of knowledge slowly and painfully made and added to by many minds thru an indefinite number of generations in the past, every addition to this store of knowledge affording still greater facilities for further additions." So far, Mr. Kidd's doctrine of progress is in accord with Mill's and Butler's theories of education. But then he finds another element. It is not no much intellectual capacity, he claims, that has caused the evolution of the highest civilization, but the development of certain other qualities which we may call ethical, moral, or religious. "A preponderating element," he says, "in the type of character which the evolutionary forces at work in human society are slowly developing, would appear to be the sense of reverence. The qualities with which it is tending to be closely allied are great mental energy, resolution, enterprise, power of prolonged and concentrated application, and a sense of simple-minded devotion to conceptions of duty." It would appear, therefore, that in any educational scheme to exalt a nation, we must include not only the acquisition of our intellectual inheritance, but also the development of the ethical qualities of reverence, resolution, power of prolonged and concen-

trated application, and simple-minded devotion to conceptions of duty. Quite recently President Eliot in a notable address traced the existence of many of the ills to which modern society is heir—the gambling habit, the drink habit, the reading of ephemeral and degrading literature, and the appeal to force instead of to reason as in strikes and mob violence—to the failure of the schools to train the intelligence, the reasoning powers of their pupils. Doubtless there is much truth in the statement, and President Eliot did a great public service in calling attention to the truth. But is it not also true that these very evils are due quite as much to the lack of moral principle as to the lack of reasoning power? Gambling and intemperance are quite compatible with high intellectual attainments, but not with reverence and simple-minded devotion to conceptions of duty.

Again, does not the adjustment of the child to his environment in that process which we call life, necessarily involve an ethical as well as an intellectual element? Not only is the child molded by the environment into which he is born, but for good or for evil he helps to modify that environment. He has his influence on all with whom he comes in contact. Every action he performs produces some reaction in others. Are these reactions good in their tendency or are they evil? Surely this is a question every man should put to himself. Surely every child should learn to ask himself: What will be the effect of this action of mine upon my fellows? Will it injure them? Will it help them? In defining education, accordingly, in terms of the adjustment of man to his environment, we must not, while seeking for the influence of environment on man, forget that man influences environment, that action always begets reaction. Education ought to train men to transform their environment for the better. And this is of the very essence of morality.

Now, if education is necessary to conserve the two main objects for which society is organized—to promote individual development and to secure equality of opportunity to all; if, further, universal education is necessary to the preservation of our republican institutions; and if, lastly, education involves

the development of the highest ethical qualities, as well as the acquisition of our intellectual inheritance, in order to adjust the child to his environment; surely it follows that the persons to whom this all-important work is intrusted cannot be too accomplished, cannot be too highly trained, and cannot be held to too rigid an accountability. If we think of the teacher's work as the foundation and the safeguard of our political institutions, we may not unreasonably suppose that he should possess some of the attributes of a statesman. If we keep before our minds the vast task of introducing the young into their intellectual inheritance, we may look for the mark of the philosopher. If we think of his duties in the inculcation of a high morality, we may regard him an "an under-shepherd of the Lord's little ones," even as a great evangelist. If we think of the battles he is called upon to fight, especially in our great cities, against ignorance and vice and against the abhorrent forces that would prostitute the public schools to selfish purposes and drag them in the mire of party politics, we may think of him as the soldier of a hundred battles. Ofttimes, too, when we see his high-mindedness in presence of affront, his fortitude in resisting tyranny, and his patience in opposing intrigue and enduring scandal, we should not be far amiss in placing the crown of martyrdom on his brow. There are few in whom are found mixed all these qualities of the ideal teacher. One such there was, however, whom Chicago knew well—Francis Parker. Him the University of Chicago delighted to honor, for he was a statesman and he was a philosopher, and he was an evangelist, and he was a soldier, and in very truth he was a martyr. The memory of such a martyr is the seed of the schools. To few in any age are given the great abilities and the great opportunities that made Francis Parker the heroic figure he was. Yet none need despair. The opportunities for efficiency come to every teacher. The humblest mistress in a country school, who inspires her pupils with the thirst for knowledge, the love of truth, and the desire for the higher life, is as truly in the class of real teachers as Socrates or Froebel, Pestalozzi or Parker.

And yet the most ardent admirer of our public-school system

will be constrained to admit that teaching, except in the case of college or university teaching, is not recognized as one of the learned professions, as the professions of law, medicine, and theology are recognized; that public-school teachers are not doing all that might reasonably be expected to foster the growth of intelligence and morality; and that they neither meet with that social and financial recognition nor exercise that influence in the community which the supreme importance of their calling deserves and demands.

How are we to account for this strange anomaly—that teachers should be called upon to do the work which is most needed to preserve the republic and yet receive so little recognition, either financially or socially, at the hands of the people whom they serve? Some would account for it by the undoubted fact that the teacher's calling leaves its mark on the teacher and by so much unfits him for general society. Charles Lamb gave expression to this view when he asked the question: "Why are we never quite at ease in the presence of a schoolmaster?" "Because," he answers, "we are conscious that he is not quite at his ease in ours. He is awkward and out of place in the society of his equals. He comes, like Gulliver, from among his little people, and he cannot fit the stature of his understanding to yours. He is so used to teaching that he wants to be teaching you."

The unerring shaft of Lamb's genial satire discovers a weak point in our harness and inflicts a wound—tho a wound that is not mortal. May not we teachers retaliate by asking what calling there is that does not leave its mark, physical or intellectual, on him who follows it? The blacksmith thru the constant use of his brawny right arm becomes lop-sided; the sailor rolls in his walk on land as a ship rolls at sea; the popular physician acquires blandness of manner and a deferential smile and the habit of never committing himself lest he should afterwards be convicted of error; the preacher rarely throws aside his preaching voice, while the lawyer speaks of ordinary matters in the language of his brief, and is always "objecting" to your conclusions or cross-examining you on your facts. The truth is that all vocations leave their impress on the physical and

intellectual man. It is only the very strongest souls that preserve their perfect poise and keep themselves free from the mannerisms of their calling. This, then, cannot be the reason why teachers receive so little recognition.

Others would account for the schoolmaster's position at present and for the ridicule that has been heaped upon him in literature by the deplorable fact that from time immemorial he has used corporal punishment as an element in teaching. There is only too much truth in the statement. Everywhere, doubtless, the conduct of the schools is to-day far more humane than it was in the Middle Ages, when, to use Oscar Browning's words, teaching was conducted amid the shouts of the teachers and the lamentations of the taught. It has grown more humane even during the last ten years. And yet, we who are seeking a better way cannot free ourselves from the contumely that has come down to us from two thousand years of cruelty to children. Tho we must endure this reproach, we should not be surprised at it. Cruelty is the characteristic of the savage; loving-kindness of the civilized man. The humane man or woman not only hates cruelty in and for itself, but despises it in the teacher as evidence of lack of skill in his calling. We cannot help despising in any calling or in any action the substitution of brute force for intellectual skill and moral influence.

Other reasons, however, there must be to account for the lack of appreciation for the teacher's position. All of them are more or less historic in their character.

The first, perhaps, is that the teacher's calling was until a comparatively recent date in the United States, and still is, in most European countries, subservient to the profession of theology. Not only have the clergy had the appointment and supervision of the teacher, but the most prominent and highly paid teaching positions have been reserved for clergymen. Public schools—tax-supported schools—are an institution of very recent growth. At the beginning of this century all schools in the United States were practically under the control of the clergy. Invariably clergymen were selected as presidents of colleges. Only two years ago a layman for the first time took his seat in the presidential chair of Yale, and only

a few weeks ago did Princeton for the first time come under the direction of a president who was not a clergyman. In England, the heads of the colleges in Oxford and Cambridge and the heads of the great public schools are almost invariably in holy orders. The discussion over the education bill that has stirred England to its depths is in the last analysis nothing more or less than a fight as to whether the clergy shall appoint and control the teachers; and, unfortunately for England, the clergy for the time being appear to have won. But it can be only for a time. No profession can thrive or receive popular recognition and support while it remains subservient or subordinate to another profession. Schools in which the teachers and their interests are under the control of clergymen can never be the best schools, because dependent teachers can never do their best work. What position would architects occupy if they were subservient to engineers, or lawyers if they were placed under the control of physicians? Yet the anomaly is scarcely greater than that once presented in this country, and still presented in England, of the dependence of the teacher on the clergymen. Teachers still suffer in public opinion because in the past they were in all things dependent on the clergy.

Only very slowly has the withdrawal of the clergy from the active management of public education resulted in greater independence for the teacher. He has been relieved of the rule of the clergy; too often he has found the thraldom of the politician. To gain place or promotion he has been obliged to pull political wires, to fawn upon men whom he despised, and to seek to obtain by influence what it was impossible to accomplish by merit. True, it is the tendency of the educational legislation of the day to deliver teachers from the serfdom of politics; but still the record of the past causes the world to look upon the teacher as the member of a dependent profession. The ignominy to which he was in the past subjected clings to him even when he has been accorded all his professional rights.

Again, lack of appreciation results from meagerness of pay and insecurity of tenure in office. Especially is this true in America, where commercialism holds far too wide a sway in

every walk of life. A man with a very small salary will not as a rule wield any great amount of influence in the community, and particularly so when it is known that at the end of a year he may be kicked out by someone who knows nothing about teaching, in order to make room for a successor with no higher qualifications, but with a stronger "pull" than himself. That I am not exaggerating will be seen when I state the fact that the average monthly salary paid to city elementary and high-school teachers in the United States is only, according to the last Report of the United States Commissioner of Education, $47.55 for men and $39.17 for women, while one-fourth of our teachers change their places every year. Reasonable pay and reasonable tenure of office are essential to win the respect of the community and to preserve that equanimity of mind and that self-respect which are necessary to anyone who desires to render good service and to take advantage of opportunities for self-improvement.

But perhaps the strongest reason why the teaching profession, notwithstanding its importance to the state, stands so low in the public esteem is that teachers themselves have too low an estimate of their calling and of the preparation it requires. They have not as a rule realized that the aim of their work is to bring about the highest development of the individual, to secure equal opportunities for all, and to perpetuate republican institutions. They have not risen to the height of this great argument. Still less have they realized that the teacher's calling requires the most thoro scholastic and professional preparation. The prevalent feeling, to our shame be it spoken, has been that anyone who knew the rudiments and could keep ahead of his pupils was good enough to teach an elementary school. Notwithstanding all that is being done by our universities and colleges and normal schools and training schools for the professional training of teachers, the vast majority of those who are now teaching and of those who are entering the profession are still untrained.

Were the lack of public appreciation and support all that results from the causes I have enumerated—from the reputation for cruelty to children, from the dependence on the clergy

or on politicians, from meager pay and uncertain tenure of office, and from the teacher's own failure to realize the importance and dignity of his calling—the consequences would be sufficiently serious. But these consequences are only a part of the evil. The greatest evil is that the teacher's efficiency and his usefulness to the community are impaired. How can a teacher introduce his pupils to their spiritual inheritance when he does not understand it himself? How can he lead the children committed to his care into habits of reverence, self-control, independence, and simple-minded devotion to duty, when he himself is dependent on another profession or on the favor of politicians. How can he inspire others with high ideals if he himself, in order to secure appointment or promotion, must resort to arts that he must despise himself for using? How can he do his best work when poverty freezes the genial current of his soul, and he does not know what will become of himself and those dependent on him at the end of the school year? Arrested efficiency is the natural and inevitable consequence to the public school if the teacher's professional standing is impaired.

By some it will be argued that much of the reponsibility I have attributed to the schools and the teacher belongs to the home and the church. The first school was the family; and in the well-ordered home the family influence is of incalculable educational benefit. In the course of time, however, as the pressure of modern life has become heavier and social conditions have become more complex, an increasingly large part of the educational duties that once devolved upon parents has been transferred to the school; and, as Dr. Harris has often pointed out, education, as far as it concerns intellectual development, is better carried forward in the school than in the home, because of the attrition of mind upon mind and because of the impetus to intellectual development given by co-operative work. Indeed, the very existence of public schools is public admission that the education of the home will not suffice.

And even in the field of purely ethical instruction the church has proved itself deplorably lacking. But a small percentage of our children are reached by the Sunday schools. Even if

these institutions were thoroly efficient, I should still say that it is not right, that it is not well for this nation, to relegate ethical instruction to one day in the week, and to neglect it the other six. For is not a body of ethical principles part of our spiritual inheritance, quite as much as art, or science, or literature? And does not progress depend at least as much on the development of ethical qualities as on hoarding "the long results of time"? But even the most obvious form of ethical instruction—knowledge of the English Bible—is not well disseminated by the churches and Sunday schools. The accurate, sympathetic knowledge of the Bible that once characterized our people is fast disappearing, and now it is a rare thing to meet a young American outside the ecclesiastical profession who has even a superficial acquaintance with that great classic. A distinguished professor of English literature at Harvard tells me that he rarely finds a Harvard student who has the slightest appreciation of the Biblical references in Shakspere.

If, then, the public school must be charged, as I believe it must, with the ethical as well as the intellectual training of the vast majority of American youth; and if it is admitted, as it must be, that the welfare of society and the preservation of republican institutions depend in very large measure on the intellectual and ethical training given in the schools, surely it follows that it is the business of the state to see to it that the teacher's life is lived under such conditions that he can render society his most efficient service.

These conditions are (1) adequate preparation rigorously insisted upon; (2) appointment and promotion by some means that shall stimulate the teacher's efforts and preserve his self-respect; (3) opportunity for self-improvement and for the development of originality; and (4) reasonable financial support and secure tenure of office for the efficient.

The first condition necessary to secure the teacher's professional efficiency is adequate preparation rigorously insisted upon. New York has the honor of having been the first State in the Union to set up a legal standard of qualifications for entering the teacher's calling. In 1895 a law was enacted which provides that no teacher shall be licensed or appointed

in any city or village of the State who has not completed at least a high-school course and a course of professional training in an institution approved by the State Superintendent. Many of the cities of my State have already set up requirements in advance of the statutory qualifications, notably in the matter of professional training. Similar requirements have been enacted by most of the large cities of the Union. But still the great majority of the persons entering the teaching field have had no professional training and but a slender academic preparation. Two years of professional training I should regard as sufficient. But even the four-years' high-school course is, in my judgment, quite insufficient by way of scholastic preparation. The high-school graduate, as he enters the college or the training school, is still in the acquisitive period. The period of culture, of philosophic thought, of a sense of responsibility to society, has not yet arrived. As President Woodrow Wilson wittily remarked the other day of the sophomore, the sap is still rising in the man, it has not yet reached his head. I hope to see the day when the minimum scholastic requirement for teaching in the elementary schools will be a college course of at least two years above the high school. Such a requirement together with a suitable professional training would do much to elevate the teacher's calling and would result in permanent advantage to the schools.

The second condition necessary to secure the teacher's professional efficiency is appointment and promotion by some means that shall stimulate the teacher's efforts and preserve his self-respect. Appointment by the clergy, as in England, and appointment thru the favor of politicians, as has been too often the case in America, both violate this condition. The reaction against the evils of these systems and the well-intended and eminently proper effort to place educational administration in the hands of educational experts have led some legislatures and some boards of education to place the absolute power of appointment, promotion, and removal in the hands of one man —the city superintendent. In my judgment there can be but one justification for a measure so radical; namely, the existence of conditions so evil that nothing short of dictatorial powers

will suffice to remove them. When such conditions are removed, the need for a dictatorship has passed. In the ordinary school administrative system in America there is no place for a dictator, for the very simple and all-sufficient reasons that an American citizen cannot work under a dictator and preserve his self-respect and that independence of thought and action which he owes to himself as a citizen and to society as a teacher, and that the dictator may himself, thru excess of power, degenerate to the rank of a spoils politician. The only system so far devised that meets all the conditions is appointment and promotion as the result of competitive examination, with a probationary period before the appointment is made permanent. By this system, which we have adopted in Greater New York, the teacher feels that both his appointment and his promotion are due to his own exertions and not to the favor of anyone, while the schools are amply protected by the probationary term against any incursion of the incompetent. The success of this plan, however, depends very largely on the character of the examination. If the examination is one which may be passed by successful cramming, it will largely fail of its purpose. To serve the purpose for which it is intended it must be of the nature which President Hyde of Bowdoin has well described as the comprehensive examination; that is, an examination which calls for a knowledge of a whole subject in its broad outlines and tests the invention and the reasoning powers as well as the memory. I should say that the most serious fault of the educational work in most of the high schools and colleges with which I am acquainted is that tests are applied to each term's work or to acquaintance with a particular text-book, and that there are few or no comprehensive examinations, as in the English colleges, to force the student to take large, broad views of the subjects he studies. When he has done a year's work in a subject or in a book and passed an examination on that work or that book, the examination is the end and the student thinks no more of the matter. This is not the kind of training that makes the best teachers. The advocates of competitive examination as a method of selecting teachers or any other civil servants will be seriously handicapped until schools

and colleges learn the wisdom of setting comprehensive examinations that will lead to comprehensive study.

The third condition necessary to secure the teacher's professional efficiency is freedom of teaching. Much just complaint has been made of irksome and vexatious restraints placed upon the class teacher's liberty by principals and superintendents thru what has been called "close supervision." There is ground for this complaint. It is no uncommon phenomenon in city schools to see a bright young teacher crushed beneath the incubus of petty rules and restraints imposed by principals and superintendents. When such is the case she degenerates, unless she is of unusually strong fiber, into the schoolroom drudge without enthusiasm and without originality. On the other hand, the claim is made, and justly made, that the undoubted improvements in public-school work that have taken place since the days of Horace Mann are due in very large degree to expert supervision. Expert supervision we cannot dispense with. It is its abuse that must be abated. The abuse lies in the issue of peremptory orders and the promulgation of ironclad rules as to methods of teaching. This evil arose in the days when all teachers were without professional training and when there was good excuse and probably good cause for dictatorial supervision. In no other way could John Lancaster, for instance, have succeeded as he did with his pupil teachers in either London or New York. With the multiplication of institutions for the training of teachers, this excuse or cause is rapidly passing away. Expert supervision there must be to unify and harmonize work, to inspire enthusiasm, and to prevent abuses; but it should be exercised in such a way as to stimulate enthusiasm rather than to suppress it, to excite originality, and not to stifle it. There are reciprocal duties between teachers and supervisors. On the one side, the teacher, if he is to render good service, must be in accord with the ends and aims of the school or the system. If he is not in such accord, it is his duty to resign. On the other hand, while it is the duty of the supervisor to criticise and to suggest, he must permit, nay, invite, the fullest and freest discussion both of the teacher's work and his own theory; and, above all,

he must encourage originality as far as it is consistent with the ends and aims of the school. Every teacher should be made familiar with those ends and aims and permitted opportunity for originality as far as it is consistent with them. Such, it seems to me, is the law governing the freedom of teaching.

I have spoken of the classroom drudge, eminently faithful but without originality, diligent in season and out of season, but without enthusiasm. The type, I am thankful to say, is disappearing, but slowly. Teachers' conferences and reading circles, the system of promotion by competitive examination, summer schools, and the throwing open of the doors of the university thru extension courses, are doing much to transform this kind of teacher. But the process of transformation is neither radical enough nor rapid enough. What is needed is larger opportunity for self-improvement. What a boon it would be to the public education of this country if every teacher were required to spend at least every tenth year in travel and study! What energy, what new ideas would be infused into the schools! And there is perhaps no class of teachers who stand more in need of such stimulation than principals and superintendents. What a splendid opportunity such a scheme presents to the Rockefellers and the Carnegies and other wealthy men to divert some of their wealth from higher education to elementary education!

The last condition which I shall lay down as necessary to secure the teacher's professional efficiency, is reasonable remuneration. Under this head I include (1) secure tenure of office during efficient service after a period of successful probation; (2) a rising salary based on increased experience, attainments, and age; and (3) the right in case of disability, to a pension which shall be an inducement to good work and a relief from the greatest anxiety of life—an old age dependent on charity. President Eliot recently laid down similar conditions as the humane conditions of the employment of labor. May we not ask that the teacher's labor—labor of paramount importance—may be conducted under these humane conditions of employment? I am proud to say that in Greater New York these conditions have been fully realized. Employment is

permanent after a probationary period of three years, a living wage is paid, increasing with experience and attainments, and there is a pension for old age. Some large cities, among them Boston, Washington, St. Paul, Providence, Rochester, Newark, Omaha, Denver, Emporia, Baltimore, and San Francisco, have recently followed New York's example and given their teachers permanent tenure of office. In none, however, has the teacher's position been rendered so secure and so comfortable as in New York. In the first place, the amount to be raised each year by tax for purely educational purposes is fixed by law at not less than four mills on the dollar of the assessed value of the city's real and personal estate. By this provision of law the conduct of the public schools is forever removed from the domain of party politics, as no party can manufacture cheap capital by cutting down salaries or interfering with valuable educational work such as the kindergarten or manual training; the school authorities are enabled to carry out well-conceived schemes of educational policy because the financial basis is secure; and the teachers are assured of a living wage. In the second place, a minimum rate of wages which increases with experience and responsibility and which is higher than the rate in any other city of the world, is also established by law. And, in the third place, ample provision is made for pensions by setting apart the amounts deducted from teachers' salaries on account of absence and by the devotion of a percentage of the city's excise money to that purpose. Such is the provision made in Greater New York for the teachers in her public schools, and I submit that her example is one to be followed in every city of the country. I base the claim of the teacher not on the right to luxury or to wealth; for neither luxury nor wealth is consistent with the teacher's mission to humanity. I base it solely on the ground that the teacher's work of education for the sake of the people of this republic will not be adequately performed under any other conditions than those of fair salaries, permanent tenure during efficient service, and relief from anxiety regarding old age.

But, suppose the state does all that I have asked for the teacher; suppose it requires adequate scholastic and pro-

fessional training, appointment and promotion on merit alone, reasonable freedom in teaching, adequate opportunity for self-improvement, secure tenure of office during efficient service, living salaries and support for old age; suppose the state guarantees to the teacher all these things, what does the teacher owe to the state in return? Each individual teacher owes to the state his greatest energy, his most devoted service, his best ability.

Individual effort, however, is not sufficient. The work before the teacher is as wide as humanity. It will never be even measurably accomplished unless teachers combine their forces and form themselves into societies for the accomplishment of common objects. When I speak of societies of teachers I do not mean trades-unions or federations of labor, because however worthy and necessary these combinations of labor are—and I believe them to be very worthy and very necessary—their chief reliance for the amelioration of material conditions is the right to strike. This is an inalienable right, but it is a right which no teacher worthy of the name will ever exercise. The teacher's work is too sacred to permit him to leave it for his own material advancement. Poverty may come, persecution may come, the true teacher will never desert his holy mission to childhood. No possible conditions will ever justify a teachers' strike. Yet if they join a trades-union they are bound to strike when so ordered. The true solidarity of teachers is as far removed from trades-unionism as a profession is from a trade.

I mean by the solidarity of teachers organization to accomplish their high purposes under a code of professional ethics which will set a standard of professional honor and professional duty that will transcend school-board ordinances and statutory enactments. Such a standard, if ever formulated, will be formulated by teachers themselves from a nice sense of honor, from loyalty to a noble profession, and from ambition to realize high ideals.

Time will permit me to indicate only a very few of the most salient features of such a code of ethics.

In the first place, the code will forbid all under-bidding, all

maligning, all pulling down of the reputation of fellow-teachers, all effort to secure another's place.

In the second place, the code will forbid the use of political, social, or religious influence of any kind to secure appointment or promotion. At first sight, this may seem a hard saying. As long as municipal government in our large cities remains the practical failure which careful students of sociology have proclaimed it to be, I suppose it is inevitable that politics will exert a baneful influence on the public schools; school boards will reflect more or less the political opinions of the appointing power; the less worthy among the teachers will endeavor to get ahead of their fellows thru "pull"; and even the more worthy in moments of weakness will sometimes in self-defense resort to the same disgraceful tactics. We may try all sorts of expedients thru legislation to prevent politics entering the administration of the public schools. But such expedients, however excellent, will always remain at best partial failures until the appeal is made to the professional honor and dignity of the teachers themselves. Let it be once understood that it shall be regarded by the profession as unprofessional to seek advancement on any other ground than merit, and the difficulties of school administration will disappear like the mist before the rising sun. It should be as unprofessional for a teacher to use "pull" to secure advancement as it is for a physician to advertise in the daily press.

In the third place, the teacher's code of ethics will enjoin never-ending preparation for work. It is not enough that the state or private munificence should provide opportunities for self-improvement. It should be part of the teacher's inmost nature to embrace them with avidity when they are provided and to find them when they are not provided.

Fourth, the teacher's code of ethics will enjoin a firm belief in progress, in the possibility of modifying environment for the better. All history attests such progress. We all believe there has been progress in the past. But when we look into the life around us, it is often not so easy to believe in progress in the present or the future. We see, for instance, that every new discovery and every new invention throws wage-earners

for the time being out of employment, and produces acute and widespread suffering. We see the great combinations of capital crushing out the small dealer and manufacturer. We see labor and capital, as in the recent coal strike, engaged in fratricidal strife in which ten innocent persons suffer for one who is guilty. In the great centers of population and in partially deserted rural localities we find suicide, insanity, vagabondage, drunkenness, and the other various forms of vice and crime, increase, as the struggle of life, which nature has ordained as the price of progress, increases. "Barbarism is no longer at our frontiers; it lives side by side with us." Often, as we reflect on these things, it is hard not to be a pessimist. Often, as we see man's inhumanity to man, as we see the squalor and wretchedness and sin that lie all around us, it is difficult to resist the cry: "The world is growing worse and worse, and man is moving on towards destruction." But the teacher who succumbs to this feeling, all too prevalent in our modern life, has belied his profession; like Peter, he has denied his Lord, but without the poor apology of physical terror. The teacher is the officer of the state whose duty it is to promote progress by enabling each new generation to build higher on the foundations laid by its predecessors. As the herald of progress, his first duty is to be an honest, thorogoing believer in what Phillips Brooks, called "a great purpose underlying the world for good, for human fulfillment, which is absolutely certain to fulfill itself somewhere, somehow." This is the thought to which Tennyson has given immortal utterance in "In Memoriam":

> "That God which ever lives and loves,
> One God, one law, one element,
> And one far off divine event
> To which the whole creation moves."

The teacher who does not believe, notwithstanding all the hindrances, notwithstanding all the sin and all the strife, in the possibility of elevating the human race mentally, morally, and physically, the teacher who cannot see in his work, however humble, something that brings a shade nearer that "one far off divine event to which the whole creation moves," has no part or lot in the ethics of the teaching profession.

Fifth, the commandment to believe in progress carries with it the duty to help all who need help, and particularly children. Neither talents, nor learning, nor accomplishments will avail the teacher much unless they are devoted to the service of mankind. He should feel, as Felix Adler has said, that he is building a temple in which the lives of the pupils he trains shall be the building stones.

Sixth, and lastly, the teacher's code of ethics will enjoin him to be humane and gentle toward all children. A harsh word, a cruel look may wound the child spirit to the death; all your powers of kindness and magnetism are required to call it into action. The ox may crush the lily into the dirt; it needs the glories of the sun of heaven to coax it into life. As a great teacher once said: "Ah, believe me, fellow teachers, where two or three children are met together, unless He who is the Spirit of Gentleness be in the midst of them, then our Latin is but sounding brass and our Greek a tinkling cymbal."

These then are the duties which, whether or not the state provides the conditions, that shall best promote professional efficiency the teacher owes to the state: professional courtesy to one another, a firm belief in progress and a constant striving toward helpfulness, never-ending preparation for life work, and love and gentleness toward all children.

I offer no apology for discussing before this great university audience the problems affecting the public-school teacher and his work. Public education is the most extensive, the most difficult, and the most important enterprise undertaken in our modern life. Now it is to the universities and to those trained in university methods that men must look for advice and co-operation in all great enterprises. With confidence, then, we of the public schools turn to the universities for advice and co-operation. We have been striving, too often blindly and ignorantly, but faithfully and strenuously, to improve our own work. We know it is far from perfect. To secure the conditions that will promote professional efficiency we need the support, the encouragement, the enlightenment which the univesity can give.

There is a story of George Inness, the great landscape

painter, that will perhaps illustrate my meaning. A young artist had striven for months over a painting. His friends had told him it was a masterpiece. His own artistic sense informed him that, notwithstanding all his efforts, the picture was still faulty. Strive as he might, he could not supply what he felt the landscape lacked. One day George Inness visited his studio. His young friend poured out his heart to him in a flood of confidence. The great artist examined the picture. He picked up the palette. Selecting a brush, he dipped it in a pigment and applied one deft touch of white paint to a cloud in the sky. Instantly the picture was transfigured. The flowers bloomed, the waters sparkled, the leaves took on a deeper green. The whole landscape was glorified. Will not the universities apply that touch to our public-school work which shall strengthen it for its great task—the intellectual and ethical development of the individual in a democracy in which the opportunities of all shall be made equal thru universal education?

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IV

SHORTENING THE PERIOD OF ELEMENTARY SCHOOLING.[1]

When a measured educational task is allotted to any school, or to any class of institutions, it is a frequent occurrence that the teacher finds the allotted time to be rather short. The common-school teachers, as a rule, when questioned as to whether or not, in any given year of a course of instruction, they have more time than they can profitably employ, answer in the negative. If the high schools that receive their students from the common schools were asked whether the students are so well prepared that a shortening of the time of preparation is feasible, they would probably dwell on the shortcomings of the preparation as it is. The same is true in regard to the efficiency of the high-school preparation when judged from the college standpoint. There seems to be a contradiction between the cry for a more thoro common-school preparation and the demand involved in various plans which have been the subject of recent discussions for a shortening of the time of the common school. It is only when we look upon the several steps of a complete scholastic education that the need of reconstruction or reformation of the course becomes evident. The common school, the high school, the college, and the university are the links of a long educational chain. Looking upon the years of life required to pass thru these institutions, and to finish the complete course of training which they offer, there seems to be some danger that education, instead of being purely a preparation for life, will encroach upon the time and functions of life itself. A peculiarly inappropriate and sinister significance is given to the abused watchword, "Education is life," by extending schooling to an age which leaves but a little span of time to life itself. Where a professional education is to follow the prepara-

[1] An address before the Annual Conference of Academies and High Schools affiliated with the University of Chicago, November 8, 1902.

tory common-school, high-school, and college education, the years of early manhood are taken up, not with life work, but with school work. Participation in real life and in the serious duties of a vocation are postponed. The years of dependence are lengthened, and the moment deferred when the youth shall stand self-reliant in the place which he has found for himself in the great army that is doing the world's work. The experiences of actual life are so essential for the training of manhood that their omission and the substitution therefor of scholastic training is a question which should be carefully considered. Activity in the world, co-operation and competition with other workers, contain educational influences as potent and essential as the training given by high schools. The boy of sixteen who enters some vocation in shop or counting room after a period of elementary schooling becomes, within the eight years following, a man and a self-poised social unit thru the educational forces of life brought to bear upon him. The other, more fortunate boy, who goes to college and enjoys the advantage of fuller education, continues necessarily a relation of dependence. He relies on others for support. The feeling of responsibility and the whole seriousness in the conduct of life which every vocation exacts from its votaries are a training which the college boy does not receive as early as his less favored brother. Such training is deferred in his case until his education is completed, whose fuller scope is designed to fit him for more responsible duties when he enters life. It is evidently a matter of great public interest to see that the college-bred youth should enter upon his professional and more responsible career at a time of life that is not inordinately late, that the period of tutelage is not unduly prolonged, and that he shall assume responsibilities of manhood that come to him when he has attained the age of manhood. When the Goths, in the latter history of the Roman Empire, had overrun Italy and taken permanent possession, they established civic institutions and promoted schools. But they would not let their own sons attend them, because they feared that the boy who had trembled under the rod of the schoolmaster would become unfitted for his career as a warrior. While this, of course, is a

barbarian's view, there is nevertheless an element of truth in the idea that the prolongation of school life beyond the proper limit is a matter which must be judged, not merely in regard to the education which the youth receives, but also in regard to the education of which he is deprived.

College time has encroached very gradually, but very steadily, on life time. Longfellow graduated from Bowdoin at eighteen, and was professor of modern languages at twenty-two; Webster graduated from Dartmouth at nineteen; Bancroft from Harvard at seventeen; Emerson graduated from Harvard at eighteen. These illustrations give evidence of the change brought about in the course of years thru the evolution of colleges and universities, and the increased demands which they make upon the students. It is easy to see the necessity for a readjustment of the complete educational career, so that it may be possible for the student to finish his college and professional education soon enough to enter some vocation in early manhood. A further reason for the early completion of the college course is found in the greater demands made upon the professional education which follows the college and the amount of time that is necessary for specializing in any direction.

The readjustment sought by the plan which this association has proposed for discussion consists in relegating to the high school two years of college study, on the one hand, and the addition to it of the last two years of the common-school curriculum on the other. To the present four years' course in the high school two years' college work is to be added from above, and two years' common-school course from below, representing, according to the present standard, eight years' work, for which it is planned to allow six years' time. The means of making this feasible consists, it is suggested, in the "condensation" of the present program. The idea of condensation is applied in the proposed plan not only to the high school, but also to the elementary schools. They are to have a six years' course instead of an eight years' course, and the work is to be reduced by a "condensation" of the existing programs.

I am afraid that the term "condensation" may lead at the

very outset to some misapprehension in regard to how such a change, if made at all, can be brought about. Condensation would seem to mean that the same quantity of subject-matter of instruction should be packed more closely together in regard to time. From my own point of view, if there is any change in the duration of the course to be made, it cannot be made by condensation exclusively, but must largely be brought about by selection and omission. If the idea connected with the proposed plan is that all the matter that has been taught in an eight years' course can be taught in a six years' course, by packing it closer in regard to time, or by condensation, the result will be an overburdening of the child by a high-pressure system on one hand, and "cramming" on the other. While there might be a so-called gain in time, there would be an educational loss by which no class of institutions would profit.

The view underlying the whole plan of readjustment is certainly in one respect commendable, and involves a principle which all thoughtful educators believe, namely, that all educational interests are allied, and educational plans for any school should be viewed from the standpoint of education as a totality. A system of common schools must bear in mind the high school and the college, and vice versa. In the education bill that is at present agitating Great Britain a fine phrase occurs which speaks of the "correlation of all the forms of education." The solidarity of educational interests is one of the corner stones of the modern schoolman's creed. The university, which has done so much to vivify, lift, and strengthen both high-school and elementary-school education, and which is justly stepping into a position of leadership in all educational matters, has the same obligation to regard the welfare of elementary schools or the high schools, as the elementary school and the high school have in turn to consider in their teaching and programs, and appointments, the cause of higher education. Education as a totality should be borne in mind whenever a change in plans or administrative features of any of the forms of education is under discussion.

There is, however, a still wider totality than that formed by all the educational institutions in their entirety. School and

life form a greater unit, and any adjustment on the basis of joint school interests alone would be incomplete without taking into consideration the interests of life and the life relations of school.

The elementary school is not only connected thru the high school with the college, but more directly with life itself. The number of pupils that prepare for a higher course of training in the common school is small compared with the masses that depend on it for their entire education. For the nation at large, the common school is the one educational unit that is of transcendent importance. No readjustment of the elementary-school curriculum should be made solely for one-sided and minor reasons of high school and college requirements. All plans for reform, in order to be feasible, must show that they are an advantage to the elementary school, considered by itself and in its direct relation to life. In other words, no change in the curriculum should be made for the benefit of the college, if it does not, at the same time, benefit the common school itself.

The great, constant, and beneficent influence which colleges and universities have had on the development of our institutions, political, social, and economic, is hardly appreciated to its full extent. Not a law is passed in Congress or legislature that is not in a measure the outflow of the training which leading minds have received, directly or indirectly, thru higher education. Not a mill is built in the centers of industry, not a wheel turns in factory or shop, except in accord with the design and plan of some college-trained brain. From the columns of the daily paper which molds and leads opinion, from the pages of every book that instructs or entertains the American home, the voice of the college speaks thru one of its disciples. And yet, no matter how fully we appreciate the importance of college life, no matter how strong our conviction that the public high school would fail in one of its important aims if it did not direct constantly the aspiration of the pupil towards college, we must concede that the importance of the common school for the nation is infinitely greater than that of the college, both on account of the immense number who attend the common school and owe to it their whole education,

and on account of the wider range of the social classes with which it is in touch thru its local distribution thruout every part of our country. Where Americans live, the common school lives. In the common interest taken in it by the whole people, in the importance of its work for the maintenance of national institutions, the common school and its interests rank first and above all others. This applies most emphatically to the elementary school and also in a great measure to the high school. Where a readjustment of the totality of educational conditions becomes a necessity, the one principle which I believe every educator should maintain is that the interests of the common school must not suffer. The common school represents the larger national value.

There are two questions involved in the plan under discussion. The one is the shortening of the district-school course by condensation. In addition to this abbreviation, the plan contemplates the transfer of two years of the district-school curriculum to the high school.

The transfer of district-school studies to the high school is attended by certain administrative difficulties. It is a question not so much of principle as of expediency and ways and means. For the school system of large cities, questions of finance are very pressing and vital ones. High-school instruction is much more costly than the elementary-school work. I do not understand that it is claimed that the work of the higher grades of the district school is not well done, and that the transfer of the work to the high school should be made for that reason. The transfer of two grades of the district schools to the high schools would add a large per capita cost to the expense of education, without any apparent gain in educational results.

The localization of attendance—The transfer of children after a six years' common-school course to some high school located at a distance from the school which they have been attending is objectionable for other practical reasons. What might be called "localization of school attendance" seems to be a universal law, altho it has been discussed chiefly in connection with college enrollment. Great colleges of national

reputation draw their students, to an astonishing extent, from the immediate neighborhood of the place in which they are located. It has been stated, if I mistake not, by the esteemed chairman of this meeting, that Harvard, Yale, and Princeton draw about ninety per cent. of their students from a radius of a hundred and fifty miles. Statistics of high-school attendance would probably show a similar principle. The proximity of the school is an inducement to attendance. Whenever children have finished the district-school course, a considerable number leave altogether on account of the greater distance which they would have to travel if they continued their training in the high school.

If the elementary course were divided by delegating two years of it to the high school, the effect would be something entirely different from the proposed transfer of some studies. It would mean in reality that the common-school course is made shorter. To put two years of the district-school course into the high school, even in an abridged or condensed form, would not be merely a change of location, but would probably result in an absolute shortening of the course. A large number of children would discontinue their schooling altogether after having finished the short elementary course.

An elementary course of seven years—While there are good reasons against a transfer of the two highest grades of the elementary-school course to the high schools, and against its incidental reduction to six years, the shortening of the time to seven years deserves more favorable consideration. Such a course would cover the ages from six to thirteen, and would represent a fairly well-defined period in the child's physical and mental life. Its termination would correspond approximately with the time of transition from childhood to youth, with all the changes in the physiological organization that this implies. Mentally, it usually marks a greater prevalence of seriousness, interest in life affairs, an awakening and sense of responsibility and stronger evidence of power for good or evil. The high school would profit by a shortening of the elementary course, because very often the reason why a parent does not send his boy or girl to the high school is that he considers him too old

to begin a course of training which requires four years to finish.

Waste in elementary education—A reduction of the time of the elementary course to seven years should be brought about, not by condensation and a high-pressure system of more work in less time, but by a selection of the essentials in the prevailing studies, the weeding out of superfluities, and the stoppage of waste. On this basis a seven years' course could be elaborated which would be perfectly satisfactory for the average child. There should be a flexible system of grading and promotion in connection with such a course which would enable the talented child to complete the elementary work in less than seven years and make it equally feasible for the slow child to spend a longer time.

There is a certain waste in common-school education which may be remedied by a stricter enforcement of the ordinary principles of common sense and pedagogical experience. In an investigation which I conducted several years ago it was found that about a year's time was being lost somewhere in the elementary course of our city schools. It was fully expected that this retardation could be located in the higher grades, where the difficulties of the work increase, where the study of geography and history introduces new elements and arithmetic becomes more complicated. Contrary to expectation, the final result of the inquiry showed that the loss took place in the lower grades, from the first to the fifth. A further surprising result of the investigation was that there appeared no retardation, or loss of time in the higher grades, but rather an acceleration; in many instances the work of two years was done in a year or a year and a half.

Causes of retardation in studies—The retardation in the lower grades is due to quite a number of more or less obvious causes. One of them is that the principle of thoroness in elementary work is at times carried too far. Grade teachers, principals, and supervisory officers should remember that each grade is followed by some other grade that goes over much of the same work once more, and fixes and deepens the impressions made by preceding instruction. There is at times in the

mind of teachers an ideal of absolute perfection which stops the child's progress by keeping him drilling on topics which he knows sufficiently well to take the next step. Many things which the child learns at present will become more and more fixed in his mind as he passes on thru higher work of the same kind. Each grade must of necessity leave some work for the next: "absolute perfection is not the learner's, but the master's, attainment." That there are data and principles in the work of each grade which must be absolutely learned is obviously true; but it is also true that there are others which, when fairly well known, suggest progress and promotion. Discrimination and good sense on part of the teacher are necessary to secure the proper application of the principle of thoroness in elementary work.

Competent supervision of the work of the teachers, and inspiring leadership of principals and superintendents, are conditions of good educational results. Nevertheless, in some good school systems the very excellence and force of the supervisory staff has resulted in a loss of time. Supervision is likely to have this result if it looks too exclusively after results and not sufficiently after *methods* of teaching; after the acquisition of data thru memory rather than the utilizing of the data for the training of judgment and thought. The teacher, for instance, who knows that her work and standing are likely to be judged by the supervisory officer in accordance with the speed and glibness with which her class can recite the tables in arithmetic assigned to the grade, will keep the class drilling on tables and numbers not only until they know them, but until they have known them well for quite a while. Usually proficiency is a cause for promotion; in some cases it is a reason why the class is *not* promoted. The teacher is unwilling to send the bright class to the next room until the impending quarterly visit of the supervisor has taken place and the attainments of the pupils have been duly credited to the skill of the teacher. Until that moment they are kept marking time round the goal of "thoroness." The child's best interests are sacrificed to distorted notions of perfection, when a class, which has attained reasonable proficiency, is not allowed to take the next step in

advance. Half-baked knowledge, like half-baked bread, may be indigestible, but it is also true that knowledge overdone becomes nauseating and destroys mental appetite.

In elementary instruction, as in higher work, the proper discrimination as to the relative values of the subjects of instruction will prevent waste. Data are necessary, but the principles under which they can be subsumed, and which appeal to judgment and intelligence, should be first in importance in the everyday work of teaching and should not be forgotten in the more or less mechanical exercise of memory. As in the proper conduct of an examination in arithmetic, for instance, the child should receive credit for the correct process, even if the results should happen to be wrong by an error in ciphering, so, in all instruction, progress and promotion should have for their test the intelligent grouping and handling of facts and an insight into principles, and should not be made to depend exclusively on the number of the data that have been lodged in the memory and are capable of reproduction in examination. Written examinations have their proper place in instruction. They guard against diffuseness and against "too much method with too little matter." But as an exclusive test for promotion they are a curse; they force the teacher's activity into the narrow channels of acquisition thru memory work, and put obstacles in the way of the proper cultivation of judgment and skill. The elementary school prepares the child most efficiently for high-school work, or for life, by laying stress more on skill and thought than on the quantity of the data of knowledge.

The adjustment of elementary instruction to a course of seven years should not be one of condensation, which crowds more data into an already short time, but rather one of omission; the omission of many pages, or even of a whole book in geography; the omission of various topics in arithmetic; the omission of dates and meaningless or irrelevant details in history, and the omission of much of the merely technical part of grammar.

There should, on the other hand, be no curtailment of time in regard to the essentials, such as the development of skill and the training of thoughtful habits of study in the directions in-

dicated. It would be a one-sided view of education to look upon it solely as the result of the efforts of teacher and child, which can be hastened at will. Education is largely a matter of growth, which requires time and makes undue haste pernicious.

The results of common-school training should be expressed rather in terms of power, than in terms of pages. The child, when leaving the elementary school after a seven-years' course, should be able to read English easily and intelligently and to discriminate in the use of words; he should be able to express in writing his thoughts on every-day subjects within the limits of his own experience. His handwriting should be clear and legible. He should possess a fair degree of skill in the common processes of arithmetic and readiness to reason out solutions of problems. He should have a clear understanding of the general ideas of geography, such as the position and movements of the earth, the physical causes of terrestrial life; he should also have an elementary knowledge of topical geography, *i. e.,* the location of cities, rivers, mountains, etc. He should know the drift of American history, and have a thoughtful knowledge of the contents of the Constitution of the United States. A certain amount of manual training, which includes drawing, may form part of this course.

There is waste in the common schools not only in regard to the number of data required to be studied, but also, to some extent, in the methods of teaching. I do not advocate the European plan of purely oral instruction in the elementary schools. Books are a necessity in modern life, and elementary education had better recognize this fact and teach their use. Books offer to the child and to the adult opportunities of extending and continuing his education, and the library is to the whole community a source of refined pleasure as well as of knowledge. To initiate the child to a knowledge of books and, what is more important, to give him the ability to use them for purposes of reading and study, to teach him to love and enjoy books should be an indispensable part of modern elementary education, and I believe the American common school to be superior to its European sisters in regard to the more extensive use

of books as means of instruction. The ability to extract information and pleasure from the printed page is not only good preparation for life, but good preparation for high school and college. While thus emphatically indorsing the use of text-books in the elementary schools, their misuse has been, and is, a drawback in education and implies a waste of time. The proper use of the book in the elementary school requires that the teacher and class should read and study the text-book together. The preparation for each lesson should require that teacher and class take it up jointly, with the book open before them. The topic is illustrated and discussed with constant reference to the presentation of the matter in the book. Class and teacher sift the important from the unimportant, group dependent data under general ideas, and distinguish between principle and application. This is an excellent introduction to the *thoughtful* seizing of the contents of a lesson as distinguished from the acquisition of the data of a text-book where lessons are assigned to be memorized. What Professor Hinsdale called the study recitation should be the common mode of teaching many of the subjects in the elementary schools. The text-book then fills its proper place and enables the child to review and to master in detail, and more thoroly, the lesson with which he has become acquainted by joint study with the teacher. It enables the slow child to keep step with the brighter child who does not need such additional application. It brings in an element of rational balance by allowing the weaker and less gifted child to put more time into the work as a partial equivalent for the greater talent of the other. The old way of assigning lessons by pages in the text-book, and throwing the child entirely on his own resources, is a more frequent cause of waste in common-school education than is usually supposed.

Possibility of reduction—With a proper selection of subject-matter and, perhaps, with the substitution of one book in geography for the customary two; with a reduction of the number of text-books in arithmetic; with stress laid on the practical and intelligent acquisition of good English (deferring some of the formal grammar to the time when a foreign language is studied in the high school), and with a change in the method of con-

ducting recitations, a course of study in the elementary school based on seven years instead of eight is feasible. A seven years' elementary course will probably increase the high-school attendance. The experience of Kansas City and other places in regard to this matter seems convincing. Superintendent Greenwood asserts that there is no city in the United States where the high-school attendance in proportion to the total number of children enrolled is as large as in Kansas City, which has seven years' elementary course and an enrollment of over 3700 high-school students, with a total school enrollment of 29,000.

An elementary course of seven years would steer clear of the dangers which a reduction to six years would carry with it. It would not stint the common school for the sake of the high school or college. It would not lead to a high-pressure system in elementary instruction, which must be avoided at all hazards. While a seven years' course would probably enable the average child to go to the high school at an earlier age than he does at present, there should be provided a way for the talented boy or girl to shorten even this time. This is made possible by the system of individual promotions, which prevails in many of the Western schools, where the classes are separated by but small intervals of time. To illustrate: in many rooms there are two classes of children with an interval of from one to two quarters' work between them. This makes it feasible for the teacher, when she sees a very talented child in her second class, who is capable of doing the work of a higher grade, to put him with the first class, with a quarter's gain in time for the child. Moreover, it should be made possible for a whole class to finish the work allotted in a course of study in less time than the prescribed half year or years. Every school should have provision for promoting capable children from class to class, or from room to room, whenever reasonable proficiency has been obtained in the work allotted to the grade. In this system of flexible promotions, the possession of a sufficient knowledge of the data of the work is requisite, but there is always need of laying at least equal stress on the ability to do work, on the possession of skill, on the evidence of good judg-

ment, and on the power to reason. Such individual promotions can rarely be decided by written examinations, but must be made on the basis of the teacher's knowledge of the power of the child. There should be in every school a certain lively flow of progress, both in regard to new knowledge presented, and in regard to the child's advancement from grade to grade. Such a system will rather enhance than impair the efficiency of the elementary schools and enable the child to enter the high school and the college a year earlier than he does now.

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V

THE EXISTING RELATIONS BETWEEN SCHOOL AND COLLEGE[1]

The growth of cordial relations, and of co-operation, between school and college in this country has been especially marked during the last ten years, and in no part of the country has this growth been more noticeable than in that geographical division of the United States known as the "Middle States and Maryland." Even at the risk of being charged with provincialism, I am inclined to assert that this growth, and the relations now existing between higher and secondary institutions of learning, can be studied better here than in any other district; and it will surely not be considered by this audience a vainglorious claim that a large share of the credit for the improved condition of affairs in this respect is due to this association.

It was in 1892 that the College Association of the Middle States and Maryland opened its doors and welcomed to its fireside the schools of the region. This was not an original move, for a few years before a similar organization had been formed in New England—that breeding-ground of associations. The possibilities and the practical value of such a union of interests were clearly recognized by many of the far-seeing members of the College Association, but there was some opposition, and more skepticism. A few schoolmasters attended the meeting at Swarthmore, in order to let the college representatives know how "willing" we were, and I well remember a conversation between the sessions with a certain college president, who said to me: "Why do you want to come in with us? We have our problems, and you have your problems, but our interests are not the same." I doubt if a college president could be found willing to father that remark to-day.

[1] Presidential address delivered before the Association of Colleges and Preparatory Schools of the Middle States and Maryland, at Baltimore, Md., November 28, 1902.

In the summer of the same year, 1892, the National Educational Association had taken a momentous step by the appointment of the famous Committee of Ten, under whose auspices was held a series of conferences on the various subjects making up the school curriculum, the committee and each of the conferences being composed of both college and school teachers. The work of this committee, and the value of it to education in this country, is too well known to call for external notice. It was the first systematic attempt to consider in all its aspects the broad question of the school course of study, and it has had a profound influence on American education. The programs suggested by the committee will not be found in many schools. Some of its conclusions, and some of the pronouncements of the individual conferences, have not been accepted by the sober judgment of the educational world, but its service was none the less marked. It unified and cleared educational thought by supplying an authoritative basis for discussion, it formulated and stated in concrete shape many of the problems that up to that time had been vague and formless, and, if it did not solve these problems, it threw a flood of light upon them. It is not too much to say also what is more pertinent to our present discussion that the work of the Committee of Ten established beyond peradventure the wisdom, and even the necessity, of the union of school and college forces to secure an adequate solution of our educational problems.

In 1893 came the first tangible result of the union of forces in this Middle States Association, when, on the motion of President Low, a committee, consisting of five college professors and five schoolmasters, was appointed to see what could be done toward securing uniformity of entrance requirements in English. The work of this committee is well known—how it secured the appointment and co-operation of a similar committee from New England, and later of still other committees from the Middle West and South; how, wonderful to relate, this joint body succeeded in agreeing upon a uniform requirement; and how, still more wonderful, this requirement was adopted by nearly every college in the United States. The point with which we are concerned now, however, is the practi-

cal co-operation in this work of school and college teachers. I am disclosing no secrets of the prison-house when I say that work on that committee proved a revelation to everyone engaged in it, and I think that I am within the limits of strict truth when I say that the great value of the committee's services to education lay, not in its securing of uniformity of English requirements, great as that service was, but in bringing into harmony and into co-operation school and college teachers of English, in securing on the part of each an understanding of the special difficulties confronting the other, and in arousing in both a realizing sense of the identity of their common problem—that of rightly training the student in the use and appreciation of his mother tongue.

In the winter of 1895-96 another step was taken of unusual interest, altho the tangible results were by no means what were hoped for. I refer to the so-called "Columbia Conferences" of 1896. These had no official connection with this association, but were so largely actuated by its spirit, and so largely composed of its own members, as to seem almost part of its work. At the invitation of President Low, Harvard, Yale, Princeton, Columbia, University of Pennsylvania, and Cornell sent delegates to each of six committees, devoted respectively to the subjects of Latin, Greek, French, German, History, and Mathematics. An equal number of schoolmasters was invited to take part in the conferences, so that each committee was composed of six college teachers and six school teachers. Each committee succeeded in agreeing upon the statement of an entrance requirement in its own subject, and these were recommended to the six colleges for adoption. It is one thing, however, for a delegate from a college to agree to a matter in a conference, and quite another thing for the college faculty to ratify his action. Two or three of the colleges concerned adopted the recommendations of the conferences, but the others declined to do so for one reason or another, and the whole matter was finally dropped. The movement was not entirely without result, however; modification of requirements was made along the lines suggested, so that the existing discrepancy was somewhat reduced, the colleges were brought more squarely than

ever face to face with the evils arising from a lack of uniformity, and a great gain was made in bringing about a better understanding and heartier co-operation between school and college men.

The next notable step in the same direction was the appointment by the National Educational Association in 1895 of the Committee on College Entrance Requirements. This committee presented in 1899 an exhaustive and most valuable report. It adopted the wise plan of calling on existing organizations such as the American Historical Association and the Modern Language Association to frame requirements in their respective subjects. These were drawn up in every case, I believe, by joint committees of school and college teachers, and the work was so well done that when the College Entrance Examination Board took up the task of framing requirements it found ready to its hand authoritative statements, that needed only slight editorial work to put them into usable shape. The work of this committee has done more than is generally realized to bring about an adequate solution of some of our most troublesome problems.

The latest step in the series was the establishment in 1899 by this Association of the College Entrance Examination Board of the Middle States and Maryland. I need not recount to you the history of this movement, for it is part of your records and fresh in your memory. It seemed almost Utopian to imagine that one set of examinations could serve for admission to any college in the country—except Harvard—but thanks to hearty recognition and co-operation on the part of the colleges, thanks to wise and judicious planning, thanks to skillful and broad-minded administration, the seemingly impossible has been accomplished, and the board stands to-day a successful fact. It is not too much to say that the establishment of the board would have been utterly impossible at the beginning of the decade, and is the crowning achievement of ten years of steady progress.

I have thus reviewed rapidly the salient points in the history of the relations between school and college in the last ten years. I have touched only on those movements that began in our

own domain of the Middle States and Maryland, or that were truly national in their scope; I have said nothing of the organization of associations similar to this in the West and South; I have passed over many instances of hearty co-operation, many cases of valuable service—my catalog has been but partial, but it has been sufficient, I think, to prove the point that I am endeavoring to make: the marked progress during the last decade in the establishment of cordial relations and of co-operation between school and college, and incidentally the part played in that work by this association.

The situation has changed materially in ten years. Then we schoolmasters were in the position of striking miners; we were fighting for the redress of grievances and for the recognition of our union. To-day we do not even ask for arbitration; we are able, speaking broadly, to take up with the colleges almost any problem as a matter of mutual concern, to be settled on the basis of the best interests of education. And yet, marked as has been the advance, cordial as are the relations, genuine as is the understanding, the situation is not all that is to be desired. I do not say this in a spirit of complaint; my feeling is chiefly of appreciation and gratitude, but it is important to see the situation clearly, and my aim is to point out frankly and plainly certain respects in which matters can be, and should be, improved.

In the first place, the attitude of some schoolmasters is not altogether conducive to harmony. At a certain gathering last winter, when the advisability of having school-teachers take part in the work of the examination board was being discussed, a certain head master said, "Let us have no dealings with the enemy! Let the colleges set their own examinations, and let us keep ourselves free to fight." I have in my possession a letter from a valued friend, a head master of recognized ability and of more than local reputation, protesting against the "catalog of injustice to secondary schools," and adding that "patience has ceased to be a virtue, deference is an absurdity." These are exceptions, but they are not solitary, and their existence shows that there is a feeling still smoldering. Partly this feeling is due, no doubt, to our inborn love of fight-

ing, which dies hard, partly to our natural conservatism, which does not fully grasp the altered condition of affairs, and partly, perhaps, to the fact that some just causes of irritation still remain.

In the second place, the statements that I have made in regard to the cordial treatment of the schools by the colleges do not apply equally to all colleges. There are institutions that meet the schools with the most admirable frankness and freedom, in a spirit that inspires confidence—but there are also others. There are a few that still maintain, as clearly as they dare, that the college is the supreme arbiter, that it is its province to say what it wishes, and that it is the school's part to conform. There are more that recognize the desirability of co-operation, but that fail in the application of the principle. This is due, I am convinced, mainly to ignorance of actual conditions. I have seen college officials astounded when the practical effect of certain actions was pointed out to them. They had intended to secure a different result, but they did not know the true conditions.

There are very few colleges to-day that are not honestly trying to meet the schools halfway. It seems possible, however, for a college to lay down officially a line of policy, and for members of its faculty to nullify that policy in action. We have been discussing this afternoon the relative powers and functions of president, trustees, and faculty—altogether too delicate a subject for a mere schoolmaster to touch. It was suggested to the executive committee by a college professor—whether out of the depths of bitter experience deponent sayeth not; but I am not sure that the schoolmaster cannot throw some light on the subject. President Eliot once said that it appeared to be easier in practice for a department to determine the policy of the university, than for the university to determine the policy of a department. It would not be conducive to harmony if I were to bring forward concrete instances in support of this position, but you may rest assured that if it were wise to do so, any doubt that might linger in your minds would be entirely removed.

Do I make clear the point at which I am aiming? It is that

in some institutions, which, as institutions, are in hearty co-operation with the schools, individual professors and individual departments nullify, in part, the official policy of the college. This state of affairs is due to two causes. In the first place it is due to defective or faulty organization. This question is altogether too delicate for me to deal with in detail, even if I were competent, as I am not, but I may say in passing that the question of university organization is one of the most pressing and most vital educational problems of the day, that the defects of organization are more clearly evident to those outside than is generally suspected by those within college walls, and that these defects have an influence on interests far broader than the simple prosperity of the institution. The real reason, however, is not to be found in defective organization. It lies in lack of knowledge on the part of those charged with the conduct of affairs. When we consider how few of the professors in certain institutions ever come into direct contact with schoolmasters in such associations as this, or ever engage with them in free discussion of their common problems, we cease to wonder that their judgment is sometimes one-sided, and that they occasionally carry into effect measures that produce startling results.

There has been an immense improvement in the relations between school and college in the last ten years, and this advance has been due not to coercion, but to the recognition on both sides that the problem is a joint one, and to the full and frank union of forces to secure its solution. That the relations are not yet perfect is due to the fact that the leaven has not yet permeated the whole lump. The desired end will be most speedily and most surely reached, by following along the same lines, and by using every possible means to bring school and college men and women into closer touch and into fuller understanding.

And there is need that they should be brought into closer touch and into more complete co-operation, for there are problems pressing that call for the united wisdom and the united strength of both parties. These problems may be roughly divided into three classes, those that concern the

school, those that concern the college or university, and those that concern both alike. A little reflection will show, however, that each has an interest in even those problems that seem peculiar to the other.

Of the problems that concern the school, the first that thrusts itself upon us is that of the kindergarten. It is with fear and trembling that one ventures upon this topic, for he is a brave man who dares to lay profane hands upon its sacred mysteries. Let me hasten to assert that I am not attacking the kindergarten. I am simply suggesting with all possible deference, that the last word about the kindergarten has not yet been said, that there is still a problem there to be solved, and a problem not altogether easy of solution.

The problem of the kindergarten is suggested by its results. Of its excellent results when applied to the children of the very poor, often with intellects stunted by improper nourishment and unfavorable surroundings, there seems to be little doubt. In fact I am not sure but one can say with safety that the kindergarten is admirably adapted to the children of the very poor and of the very rich, whose parents alike, because of ignorance or because of indifference, because of stress of life or because of social strenuousness, are unable to give them that care and that training that come best from the parent's hand. With the bright, normal child, however, coming from the typical American home, the results in many cases—not all—are such as to rouse serious question.

It is difficult to summarize these results with confidence and accuracy, for it is not easy to tell with certainty how much is due to the child's personality and home training, and one is soon forced to the conclusion that there is as much difference between individual kindergartens as between individual schools of higher grade—or even as between individual colleges. Still, in spite of the difficulty of the case, certain impressions are formulating themselves with growing distinctness in the minds of careful observers. There is an increasing distrust of the physiological soundness of some of the kindergarten ideas, caused by the many cases of eye strain and nerve irritation that appear to be traced directly to its doors; there is a feeling

prevalent that many kindergarten children develop an undue sentimentalism and an abnormal imagination; and many primary teachers are of the opinion that the children who come to them, while alert and responsive in mind, are lacking in power of continued application and in capacity for independent work. These are no new criticisms, but the number of those who make them is increasing, and they cannot be lightly brushed aside.

A little study of the kindergarten, its origin, its theory, and its growth, throws some light on the subject. Froebel was a great man, with a keen insight into child nature. He was an educational prophet, with a message of truth and of power, but he was not inspired, and he was not infallible. His pedagogy was better than his philosophy. His educational precepts are often distinctly sounder than the symbolic and mystical ideas on which he bases them. He developed a system of elementary education in many respects admirably adapted to child nature, but curiously permeated with his symbolic ideas. It was a system adapted in its external features to the children with whom he came in contact, stolid German children, largely of the peasant class and from three to five years of age. Now, given a system like this, based on an everlasting truth, but permeated by a questionable and seductive philosophy, and adapted in its external features to children of a particular type, is there not call for unusual judgment and discretion when it comes to developing the system and applying it to children of another race and another temperament? When it is interpreted by immature young women, frequently of the sentimental order, who after a "normal course" of a few brief months are graduated as priestesses of the mystic cult, and when this system, so interpreted, is applied to high-strung, nervous American children of six and seven, often two and sometimes three years beyond the kindergarten age, is there any wonder that the results should be what I have said observers find them?

Let me repeat that I am not attacking the kindergarten. I am only trying to save it from its friends. Let me also hasten to add that there are kindergartens and kindergartens, and that the results are not all alike. My object is simply to raise the

question whether the kindergarten enthusiasm has not outrun itself, whether there is not good reason for feeling that the development of the kindergarten in this country has been too rapid for normal, healthy growth, and whether the problem thus raised is not one that in its solution calls for the highest and the best educational thought of the country?

Akin to the problem of the kindergarten is that of the elementary-school course of study. There seems to be a growing belief in the omnipotence of education. Every fault in our individual and collective nature is ascribed to defective education, and the weaknesses of heredity and environment that the kindergarten does not profess to overcome are calmly turned over to the school to remedy. When one stops to combine and collate the various theories propounded in our newspapers, at our Mothers' Clubs, and at our Teachers' Institutes one is filled with awe.

It is not enough that the child should learn to handle skillfully the tools of all learning—the three R's; his sense of form, and his æsthetic nature must be developed by drawing; his hand must be trained by manual work; his musical nature must be awakened by song; he must be brought into harmony with his external environment by means of nature lessons and the study of science; his patriotic impulse must be roused by the study of American history and by flag drills; temperance must be instilled into him by lessons in physiology with special reference to the effects of alcohol on the human system; his imagination must be cultivated by means of acquaintance with Greek and Norse mythology; he should gain some knowledge of the great heroes and events of general history; thru the plentiful reading of masterpieces he should acquire a love for and an appreciation of the best literature, while at the same time his mind should be stocked with choice gems of prose and poetry that will be a solace and a comfort to him thruout his later life; it will be well if by displacing a little arithmetic or geography he can gain some knowledge of the elements of Latin or of a modern language; in some manner there should be roused in him a love for trees, a respect for birds, an antipathy to cigarettes, and an ambition for clean streets; and some-

where, somewhere in this wild chaos, he must learn to spell! All these things, together with sewing, cooking, carpentry, principles of morality, and gymnastic exercise can easily be acquired in the grammar grades, provided only we have good teaching and proper economy of effort. Do you wonder that sometimes teachers in progressive schools confide to us that they fear their pupils are slightly bewildered? Do you wonder that pupils do not gain the habit and the power of concentrated, consecutive work?

I am drawing no fancy sketch. Every one of these claims that I have cataloged, you have heard made, in all seriousness; you have heard them greeted with applause; and you have seen special associations organized to further each one of them. Am I not right in saying that there is a pressing problem here, a problem too serious to be left to Mothers' Clubs, or to educational enthusiasts? These problems of the kindergarten and the elementary curriculum concern mainly the schools, but they are fundamental. Each step in education conditions that which follows, and the university is affected by the kindergarten. They are school problems, but they need for their adequate solution the highest and the best thought in the whole educational field.

Besides these problems of the school there are certain problems of the college or of the university that thrust themselves upon our attention. First of these is perhaps the question of technical and professional schools. Engineering in its various forms has developed with amazing rapidity during the last twenty or thirty years. The profession has steadily grown in dignity, in influence, and in opportunity; it has called for a constantly increasing number of men, and it has steadily raised the standard of attainment necessary for success. The natural result has been the rapid growth and development of engineering schools that have been such a marked feature of modern educational progress. Like every such rapid growth it has been marked by confusion and lack of unity. We have engineering schools calling for little more preparation than can be acquired by a year in a good high school, we have those whose standard of admission is fairly comparable to that of

the ordinary college course, and we have some that call as a prerequisite for two or three years of collegiate work or their equivalent. The courses offered are equally diverse. In some the entrance requirements are fairly commensurate with the difficulty of the course; in others they are absolutely misleading. In some any student of fair ability working with reasonable industry can expect to earn his degree, but in others no one but a mature student, of more than average ability, and of robust health, can hope to go thru without breaking down. In some the studies are exclusively technical, while in others there is some semblance, at least, of a more general culture. Perhaps this diversity is wise; possibly there is need for work according to all these varying standards, but on the surface the diversity appears to be haphazard rather than of settled plan. At least, there appears to be a problem here, and a problem that should not be solved by the university alone, but that calls on the one hand for the aid of the engineering profession, which uses the finished product, and on the other for that of the school, which supplies the raw material.

Akin to this is the question of the status of the other professional schools, especially those of law and medicine. Is the tendency to elevate many of these into purely graduate schools, requiring a bachelor's degree for entrance, wise? Or, if wise and desirable, is it feasible for more than the very few? The question is a broad one, and one in which the schools have more than a passing interest. It means a great deal to us whether a considerable percentage of our pupils are to be prepared directly for professional study, or whether a college course is to intervene.

A somewhat different problem, but yet akin, and even more vital at the moment, is that of the length of the college course. I have no intention of discussing this question, tempting as is the opportunity, but it will not be amiss to call attention to one or two considerations that are sometimes overlooked. The problem is one that is forced upon the college; the proposal of a shortened course is not the result of seeking for some new thing, but is born of a desire to remedy an existing condition. The quantitative and qualitative increase of college require-

ments on the one hand, and the steadily growing demands of professional study on the other, have so lengthened the time needed for preparation for law and medicine that the age of beginning one's life work is forced up to an unreasonable point. Three results follow. Some men begin the practice of their professions too late in life; some skip the college altogether, going straight from the secondary to the professional school; and some are turned aside from the professions of their choice by their inability or unwillingness to give the time needed for full preparation. Similar results follow in the case of those destined for business, and no one knows better than the schoolmaster how many a man is turned aside from a college course by what seems to him its inordinate length. Two proposals are before us to remedy the difficulty. One is squarely to shorten the college course to three years; and in so far as this is a compensation for the abnormally increased admission requirements, the plan is at least logical. The other proposal is to cut the present college course in half, and either to give the bachelor's degree at the end of two years, or to allow the beginning of professional study at that point, giving the degree two years later. There is an absolute demand, I believe, for such a two-years' course preparatory to professional study, but I wish to emphasize the point that the establishing of such a course is one thing, and the granting of a degree for it is a very different thing. The one may be imperatively needed, but the other does not necessarily follow. An ordinary school course is not an adequate foundation for professional study, but four years is more time than can be added to the preparation for most students. Unless something like a two-years' college course is offered, the tendency to skip the college will increase. The immediate effect of this will be a tendency to bolster up and extend the school course so as to afford a more adequate preparation. Here is one of the points at which the school comes into the problem. Any change in the status of college and professional courses has a direct effect on the demands made on the schools. I cannot here discuss the question fully, but I wish to enter an emphatic protest against the existing tendency to turn college work over to the schools. We are

now doing a large share of Freshman work, and the result is not satisfactory enough to warrant an extension. We can do certain things better than the college, but we are not equipped to do college work, and the educational result will be distinctly better if we confine ourselves to our proper sphere. It will be a sad day for American education if the dream of certain enthusiasts comes true and the high school supplants the American college, or if the college course is crushed out between the upper and the nether millstones.

The problems thus far mentioned are generally regarded as peculiar respectively to the school or to the college, but I have tried to indicate how each is concerned in the problems of the other. The greatest weakness in American education is the way in which it is chopped up into distinct sections, with untrimmed ends that leave ragged gaps between. If the education of a boy or a girl is a continuous process, what affects one step in the process affects the whole. The training in the earliest years conditions to a greater or less extent the work in the latest, and we of the schools, therefore, have the right to call on the wisdom and influence of the universities to aid us in making that early training more efficient. College and professional courses directly affect and are affected by secondary-school work, and no solution of their problems will be edequate which ignores that fact. The workers in no stage of education have any right to say, "This is our province where we will work our own will."

There are some questions, however, which so directly affect both school and college that no argument is needed to show that they are joint problems to be settled only by joint discussion and joint action. The first of these questions is that of uniformity of entrance requirements. The principle of uniformity does not necessarily demand that all colleges shall require the same subjects for admission, but it does demand that when a college requires a particular subject, its requirement in that subject shall not be materially different from the requirements of other colleges in the same subject. We of the schools insist that one class in any subject should be able to prepare its members equally well for all colleges requiring that subject.

This appears to be a reasonable proposition, and the intellectual acceptance of it is now quite general on the part of the colleges, altho there are still some that are unwilling to sacrifice that precious possession which they call their "individuality." But if the principle of uniformity is generally accepted as a sound proposition, much is yet left to be desired in its application. There has been a distinct gain in the last eight years, but the goal has not yet been reached, and we see no immediate danger of that dead level of monotony that some appear to fear. For instance, we have a uniform entrance requirement in English, but a study of the English papers set in various colleges shows that there is no uniform interpretation of that requirement. Harvard maintains a set of requirements distinctly at variance with those of other institutions, and among other colleges there is a diversity in details that is at times disheartening.

I admit the difficulty of the case. The principle is not always easy of application in detail. If several colleges differ in regard to any requirement, to which one shall the others conform? It is a case for sinking of individual preference, for co-operation, for united action. The College Entrance Examination Board now offers what many of us believe to be a practical solution of the difficulty, and the growth of its work in the last two years indicates that this belief is well founded. I am not now arguing, however, for the examination board, or for any particular plan. I am simply trying to show that the desired uniformity of entrance requirements has not yet been fully attained, and can be fully attained only by the co-operation and united action of the colleges and schools of the country.

The second problem that concerns college and school alike is that of options in entrance requirements. There was a time when the question was, "Shall there be any option at all?" Two of the oldest and largest colleges in the East still allow, in their academic departments, no option whatever, except a choice between French and German, so that the question still exists in its old form. With a few exceptions like these, however, the principle of choice has been admitted, and the question

has now become, "How far? To what extent shall options be allowed?" Is the true position that of Yale and Princeton, which insist on Greek as an absolute essential? Is it that of the colleges which hold to the Latin and mathematics, but allow a choice between Greek and modern subjects? Are Columbia and Cornell right in opening the door to students without either Latin or Greek? Or shall we go still farther, and throw in our lot with that Western university of which it has been said that a man "may select his own entrance requirements, choose his own studies when admitted, remain as long as he likes, and pick his own degree when he decides to graduate?" It is beyond all question, I think, that there is an imperative demand for some freedom of choice, a demand to which even the most conservative must yield, but there is serious question whether that freedom of choice may not be, and has not been, in some instances, carried too far. The problem is not a simple one; it is entangled with that of the elective system in school and college, and it is complicated by the chaotic condition of college and school courses thruout the country. It is not a dead issue, altho some institutions seem to think that they have settled it. It is a live problem and one that should be solved by the joint wisdom and experience of secondary and higher institutions.

A third problem of joint interest is that of the method of admission to college—shall it be by certificate of the school, or shall it be by examination? Or, is there possible a combination of two methods, by which the school shall certify as to the ground covered, and the college shall give a modified examination, designed to test thoroness and power? The question has been discussed before you to-day, and I content myself, therefore, with simply stating it as one of the still unsettled problems.

There is only one other problem that I shall mention, but that is one that has not yet received the general attention and consideration that it deserves. This is the question as to the amount of work that shall be required for admission to college. It is not easy to make a general statement on this point, because the requirements of different colleges vary as much quantatively as they do qualitatively. For instance, it is not an ex-

aggeration to say that there is nearly if not quite a year's difference in the work called for by reputable colleges of good standing in New England and the Middle States. Still, in spite of this difference it is possible to generalize with some accuracy, for the work of college preparation is largely conditioned by the higher requirements.

One fact appears to be generally admitted. That is that the age of college entrance is now too high. We are told that the responsibility for this rests with the schools, partly with the secondary schools because of improper economy of effort, partly with the elementary schools because of not sending up pupils early enough or well enough prepared. Unquestionably there is an element of truth in this charge, but careful study has convinced me, and I am prepared to maintain the position, that it is at best only a half truth, and that a large share of the responsibility for the existing state of affairs rests with the colleges, which have forced their requirements to an unreasonable point. We have to deal with boys and girls as the good Lord made them, or rather as their parents brought them into the world, for many of their limitations and shortcomings should be ascribed to their parents, rather than to the Lord. We are not dealing with ideal or exceptional, but with actual and average pupils, if there is such a thing as an average boy or girl. Every school of any size has sent to college pupils of sixteen and under, and these have probably been among their best graduates, but in those same schools the average age is up to the normal, and every one of them is constantly dealing with pupils who are either physically or mentally too immature to meet the college requirements at seventeen, or even at eighteen. The fact is that the average pupil has too many subjects, and too much of each subject, for his mental digestion. The work would be better done, and the pupil would be better prepared for college, if the demands were less. In the best public and private preparatory schools there is a constant pressure that does not conduce to the best educational results. I once expressed surprise to a high-school teacher at the amount of work accomplished in the last year of his college preparatory course. His reply was significant. "You forget," said he, "that by

our last year we have only the cream of the class left." The number of those in some of our high-grade schools who are unable to stand the pace is simply appalling, and college preparation in those schools has become largely a matter of survival of the toughest. The sacrifice is beyond all reason. Now, I submit that where there is such pressure, and such sacrifice, there is something wrong. Granting that both our elementary and secondary courses are capable of improvement, is the college free from responsibility if, under existing conditions, it makes demands that can be met only by undue pressure or by forcing up the age of entrance? Possibly I have stated the matter too strongly, but I submit that here is a question calling for the closest attention, and for the most searching investigation, and that is distinctly one of the joint problems of school and college.

I have tried to show how much has already been accomplished in securing better relations between our schools and colleges, and at the same time I have tried to point out how much still remains to be achieved. I have tried to indicate some of the problems that are to be solved, and to show that they can be adequately settled only by joint action of the two parties concerned. I plead for closer relations and for heartier co-operation between school and college. I plead for the interest of each in the peculiar problems of the other. I plead for the laying aside of individual preference, of class feeling, of institutional rivalry, and for a union of all our forces to solve the problems that press upon us. I make the plea on the ground of the immense importance of the questions involved, and on the broader ground of the unity of education, of hastening the time when the education of the boy and the girl shall be one continuous process from the first day of school life to the awarding of the last degree. I make the plea in no spirit of pessimism or of despair, but, with a full appreciation of what has already been achieved, I urge the laying aside of everything that may retard the present movement, and the union of all our forces to speed the work so auspiciously begun.

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VI

EMERSON E. WHITE

What a company of worthies from the teaching profession in this country have departed this life within the last few years! Among those whose names are household words with the teachers of the land may be mentioned Henry Barnard, Andrew J. Rickoff, Larkin Dunton, Charles C. Rounds, B. A. Hinsdale, Francis W. Parker, John Henry Barrows, Emerson E. White. These were prophets, priests, and kings of the profession. They served well their day and generation, and have left behind them the memory of noble lives devoted to a noble cause. They are of those whose actions

"Smell sweet and blossom in the dust."

None of them all had a wider experience in the educational field than Dr. Emerson Elbridge White, who died at his home in Columbus, Ohio, Tuesday, October 21, 1902. He began his professional life as the teacher of a country school; later he was at the head of one of the Cleveland grammar schools, then principal of the Central High School of that city; he served as superintendent of schools in two of the cities of his State, Portsmouth and Cincinnati, was Commissioner of Common Schools for Ohio, and president of Purdue University in Indiana. He was also editor and proprietor for a series of years of the *Ohio Educational Monthly*. He obtained his education in the country school of his native place in northeastern Ohio, in Twinsburg Academy, not far from his home, a famous school in those days, and in what was then known as Cleveland University.

His varied experience gave him a knowledge of the practical working of schools of all grades, of the management and administration of school systems, and of the educational problems that present themselves for solution from time to time such as few men have possessed in an equal degree. It was this full-

EMERSON ELBRIDGE WHITE

Born at Mantua, Ohio, January 10, 1829
Died at Columbus, Ohio, October 21, 1902

ness of knowledge that helped to make him one of the most successful of all the workers in teachers' institutes and in other assemblies of teachers where instruction and inspiration were sought. He knew from experience the needs of the teacher in the small country school and the difficulties that beset his path, and he knew equally well the problems that the teacher in the large city school had to meet and solve, and he could give helpful counsel to both. Therefore he was constantly in demand for teachers' gatherings, and it may be doubted whether any man in the country has ever met and addressed as many teachers as did Dr. White. His work on these occasions was always earnest, serious, and inspiring.

His effectiveness as a public speaker also contributed largely to his success in this field of effort. The work of the teacher in general seems rather to incapacitate one for public speaking. The drill of the schoolroom, the attention to details, the requirement of exactness in thought and expression, and the constant cultivation of an analytical frame of mind, are unfriendly to the free play of thought and fancy so essential to the successful speaker. But Dr. White possessed a natural gift for public speaking that was not impaired by his experience in the schoolroom, and hence it came to pass that as a platform orator he had few superiors in the profession. His tall, erect figure, his dignified demeanor, his graceful and impressive manner, and his clear utterance, added force and attractiveness to his message. He spoke because he had something to say, and he said it simply and forcibly. His carefully prepared lectures, that were delivered in all parts of the country, were characterized by clearness, earnestness, elegance of expression, and elevation of sentiment.

His books on teaching exhibit the same clear, simple, forcible style that was noticeable in his spoken words. They may be read by the average teacher and be understood without frequent recourse to a glossary. He never aims to appear profound by being obscure. He does not belong to that class of writers, described by Schopenhauer, who "wish to appear to know what they do not know, to think what they do not think, to say what they do not say." He never poses behind the "mask of

unintelligibility." His thought is luminous and is expressed with a directness and clearness that give satisfaction. These qualities of his writings are worthy of special notice because they are so often sought in vain in current educational literature.

His ideas too are sensible and practical. He was no dreamer or mere theorist. He did not evolve the science and art of education from his inner consciousness, but he wrote from a fullness of knowledge gained by observation and experience. Hence his books appeal primarily and directly to the teacher engaged in the actual work of the schoolroom and only secondarily to the educational philosopher and theorizer. Yet his writings are permeated by a sound and consistent philosophy, a philosophy that is constructive rather than destructive. The over-zealous champions of every new departure in education did not always find Dr. White wholly satisfactory, and they were inclined to think that he was unfriendly to new ideas. To his credit be it said, he was unfriendly to some new ideas. He was not a man to be carried about with every wind of doctrine. He did not believe that everything new in education should be accepted merely because it was new, nor that everything old should be rejected merely because it was old, but he would keep what was good in both. He was wise enough to see that the future must be built upon the past, and that any other kind of building must be temporary and disappointing. It is true that the superficial observer, in his impatience, may at times long for some visionary or enthusiast to sweep thru society like a cyclone uprooting and laying prostrate old ideas, old theories, and old practices, and clearing the way for a new and better era. But a truer philosophy teaches that this is not the method of genuine progress. Catastrophism as a scientific explanation of the development of the material universe has been abandoned as untenable; it is equally untenable in the social, moral, and educational world. There is a wide difference between cataclymsal disturbance and rational, healthful progress, whether in the realm of mind or in the realm of matter, and it was just this rational, healthful progress that Dr. White believed in and stood for. He had no disposition to be the leader

of an educational crusade, and it is no reflection upon him to say that he was unfitted by nature for such a task. There was in him nothing of the radical or fanatic seeking to overturn the existing order and striving to attain the unattainable and impracticable. He was wisely conservative and wisely progressive, not blindly revolutionary. And when we recall the long list of cock-sure panaceas for educational ills that have, within the last quarter of a century, been placed upon the market, been widely advertised, and that have flourished each for its little day and then disappeared only to be consigned to the limbo of things discarded and forgotten, we have a truer appreciation of the eminent sanity of Dr. White in all that he said and wrote on education.

The last educational office held by him was that of superintendent of the schools of Cincinnati. No school position is more trying than that of city superintendent. It requires a man of unusual endowments to hold such a place for any considerable period and retain at the same time his own self-respect and the favor of the school board. The frequent changes in city superintendents and the not infrequent voluntary resignations of those holding the office are sufficient evidence of the truth of this statement. It was due to the recognition of Dr. White's character, ability, and unquestioned fitness for the place that, notwithstanding the difficulties of the situation, he held the position for three years. He came to the office admirably equipped for its duties, and he rendered most valuable service to the schools of the city. He was an intelligent, sympathetic counselor, dispensing commendation, encouragement, and criticism in a spirit of kindly helpfulness. He won the friendship and esteem of the teachers in an unusual degree, and the respect of all with whom he came in contact. Under his administration the morale of the teaching force was improved and the methods of the schoolroom made more rational. But while he did much for the schools his term of service was too short to enable him to carry to completion all the improvements that he contemplated, for such changes in long established customs require time and patience if they are to be permanent. His retirement from the superintendency was a

cause of keen regret on the part of all who had at heart the educational interests of Cincinnati.

Dr. White was all unskilled to "crook the pregnant hinges of the knee where thrift may follow fawning," but he was true to a high sense of duty and obedient to the dictates of an enlightened conscience. These are qualities that he inherited from a long line of Puritan ancestry running back to the early settlement of New England.

During his last years he lived in Columbus, devoting his time to the completion of his series of text-books, to the preparation of lectures to be delivered before bodies of teachers, and to other literary work.

Upon the news of his death, altho twelve years had elapsed since he left Cincinnati, the principals of the schools met to pay their tribute to his memory. They expressed their appreciation of his high qualities as a man, of his work as a leader and an educator, and their deep sorrow at his loss. "His influence," they say, "has accomplished much here in Cincinnati, and will be felt in years to come. His name is a synonym for probity, for solid education and scholarship, for strenuous, courageous, efficient life."

Dr. White was a prominent figure in State and national associations; he took an active part in their proceedings, and often served in positions of honor and responsibility. He was one of the founders of the Council of Education, one of the most constant attendants upon its meetings, and was always listened to with interest in its deliberations. To him more than to any other one man is due the honor of having secured the establishment of the National Bureau of Education at Washington. He was its earliest and foremost advocate; he drafted the bill for its organization, and thru his acquaintance and friendship with General Garfield brought to the support of the measure the influence of that leading member of Congress.

Those who knew him slightly and saw him but seldom sometimes thought him cold and distant, but those who enjoyed his intimate friendship knew that he had a warm heart and a quick sympathy. He was a courtly, dignified, Christian gentleman,

whose presence and counsel will long be missed in our annual gatherings.

In the tribute paid to Colonel Parker and Dr. C. C. Rounds at the meeting of the council in Minneapolis last summer, Dr. White spoke feelingly and eloquently. His opening words were as follows: "To those of us who are living on borrowed time, these occasions of tribute-paying to the memory of our departed associates are specially impressive. As we see the ranks of those who were our early associates in this council and in the National Educational Association thinning year by year, we realize that we shall soon pay our last tribute and join the departed." Who of his auditors thought at the time that these prophetic words were so soon to be fulfilled?

E. W. Coy

Hughes High School,
Cincinnati, Ohio

VII

DISCUSSION

UNIFORMITY IN COLLEGE CATALOGS

Since working on a number of committees, whose duty it has been to make a study of college catalogs for the purpose of securing certain common data as a basis for generalization, I am inclined to criticise severely both the matter and the form of these publications. Each is a law unto itself. This is perhaps not strange. We have no system of higher education, and the individuality of each separate institution shows itself in its catalog. We would not, in fact, have it otherwise. Yet it is true that beneath all this mass of variation which is particular to each catalog there are certain facts that are common to all. Each college has its pre- and post-entrance requirements: its minima and maxima of election, and so on. Would it not be of advantage, both to prospective freshmen and to students of education in general, if there were some uniformity in the statement of these, and especially in the method of indexing? As it is, it is an almost interminable task to discover these common facts in most catalogs. Cannot some move be made in the direction of securing the desired uniformity? No change in the general form or contents of any announcement would have to be made. Simply the adoption of some uniform unit of measure for entrance requirements and prerequisites for graduation—that of the North Central Association of Colleges and Secondary Schools might do for the former and the semester hour for the latter—and a concise, preferably tabular statement of them, together with the other essential facts, under common headings in the index. It is possible that this might be brought about thru the Department of Higher Education of the National Educational Association. If not, cannot the EDUCATIONAL REVIEW take it up? College catalogs are to-day no unimportant educational text-books, and whatever can be done to make them more useful will prove a real blessing.

EDWIN G. DEXTER
UNIVERSITY OF ILLINOIS

VIII

REVIEWS

School architecture—By EDMUND M. WHEELWRIGHT. Boston: Rogers & Manson, 1902. 324 + xv. p., 248 illustrations. $5.00.

What an expert has to say on subjects within the field of his expert knowledge is always worthy of attention, and Mr. Wheelwright's contribution to the literature that deals with the design and construction of public-school buildings is one which no one having to do with school architecture can afford to ignore. Its author, the accomplished architect whom the city of Boston was at once so wise and so fortunate as to secure for its own service as city architect, distinguished the office to which he was called by the uniformly high quality of his professional work in it. He gave himself with especial seriousness and devotion to the study of the problems involved in the designing of the school buildings for which he was required to furnish the plans; and the fruits of this study, matured in the form in which they appear in the handsome volume under review, represent not only the ripe experience of a trained architect, but also a thoro familiarity with the most advanced views of specialists in sanitation, in school administration, and in other departments related to the central problems of school design.

The results of this professional and extra-professional study are presented in the form of an extremely concise and comprehensive compendium of information on every aspect of design, construction, heating, lighting, ventilation, furniture, and equipment of public schools, from the kindergarten to the normal school. With that broad impartiality of view which is becoming the recognized characteristic of American technical treatises, the survey includes not only the best and most recent American practice, from Maine to California, but also a large variety of European examples; German, French, English, Swiss, and Scandanavian schools receiving abundant notice. The faults and deficiencies as well as the merits

of the various types are set forth with conspicuous intelligence and discrimination, without national or local prejudice, and with a concise directness of expression which compensates by its vigor and clearness for whatever sacrifice of literary elegance is its inevitable price.

The value of its discussions and criticisms, for professional educators as well as for architects (for whom the original papers which formed the groundwork of this treatise were originally written and published in the *Brickbuilder*) lies in the wide range of the information given, the great number of American and foreign examples cited, described, and illustrated, and the practical sense and pointed directness which characterize its discussions. Of the 168 cuts in the text (besides some eighty half-tone views of buildings) the great majority are plans, and most of these show clearly the desk-plan of each room. These plans are alone worth the price of the book. The model specification at the end of the book and the admirable index add greatly to the value of the treatise. If the average American school-board could be persuaded to walk in the light afforded them by the information, the counsels, and the illustrations contained in this work, there would be a sudden and amazing advance in American school architecture. In the presence of these conspicuous merits the criticisms of detail that might find a place in a more extended review are too trivial to be here set down. The book is well made and handsomely printed, and errors in proofreading are few. One of these, however, in the title to the plate on page 186, robs Mr. Chamberlin, to whom the book is dedicated, of his rightful share in the credit for the design of the fine English High School in Cambridge, by inserting an unlucky *a* in his name. This correction is due the reputation of that architect.

A. D. F. Hamlin

Columbia University

Nature study and life—By C. F. Hodge. Boston: Ginn & Co., 1902, xvi + 514 p. $1.50.

The title of Professor Hodge's book, *Nature study and life*, indicates the author's thought that in nature study emphasis should be placed upon vital relationships of living things,

rather than upon descriptive details of individual objects in nature.

In the first chapters the aims are distinctly set forth, and the remaining chapters are consistent thruout. The whole theory of nature study, as understood in this book, is embodied in the statement that it is "learning those things in nature that are best worth knowing, to the end of doing those things that make life most worth living." That which man has learned from nature in the past has enabled him to subdue life and the forces about him. This subjugation began by taming and domesticating animals and by cultivating plants. Following this thought Professor Hodge places great emphasis upon the value of letting children learn to tame animals, and to cultivate plants in the school garden or at home. This necessitates a patient and careful study of the characteristics of the various plants and animals and conditions necessary for their healthy, normal life.

The economic side of the work is very prominent. Children are taught the life histories of animals in order to recognize and destroy pests, and to save and care for the harmless animals, especially those helpful to man. The economic side is closely related to the ethical and social, inasmuch as a knowledge of useful and of injurious forms of life, will lead to an intelligent observance of laws which are based upon facts of nature, and will give an appreciation of the human value of science.

Nature study should not fail on the æsthetic side of a child's training, but should "fill and surround homes and schoolhouses with the most beautiful things attainable, and instill the spirit of creating and preserving the material beauties of roadside, field, and forest."

In order to secure the greatest educational value of nature study, we should make use of the child's spontaneous activity and lead to a direct, first-hand contact with nature. This activity should not be developed about worthless things, but be directed to objects worthy of a lifelong interest.

While the author has set forth his aims and methods at some length thruout the book, there is, nevertheless, so much reliable and valuable information contained in the chapters on

insects, elementary botany, insectivorous animals, miscellaneous animals, elementary forestry, birds, and flowerless plants, that the work might serve as a text-book for the teacher of nature study or for the normal-school student preparing to teach in the elementary school, provided, of course, that the use of the book be accompanied by careful study of the specimens themselves, and supplemented by reading in more advanced works on the various subjects. The book will be found of greatest service in towns within easy reach of the country, and where ground is not valued at prohibitory prices. Unfortunately, while teachers in a great crowded city may get inspiration from the spirit of the book, they will be able to put only a small portion of it into practical use.

In a very praiseworthy attempt to offset the tendency of many nature study systems to dwell upon structural details, Professor Hodge has almost entirely eliminated the observation of the important structures and their functions, the study of which often enables us to understand how an animal has become of particular use to man.

The study of inanimate things is deferred, and it is suggested that the children be allowed "to wonder about them for a few years and then come with interest keen and fresh to their study of chemistry and physics."

There is no study of physiology planned for the elementary school, but the necessary laws of health and cleanliness are to be imparted to the children from an early age, and in such a way that they will see the force of certain necessary health regulations, and co-operate in enforcing them. To this end children are taught how disease germs are communicated, and instructed in the code of regulations of the health board of the community in which they live.

At the end of the book plans are suggested for each grade. In some cases the types selected for study do not seem well chosen for the age of the children; for example, such minute animals as the flea for the first year, or flies and lice for the second. The number of plants and animals for each grade is very large, and such study is arranged for every grade in the school.

The book is well illustrated by many reproductions of

photographs taken from life, and contains some valuable directions for the proper care and preservation of specimens.

ELIZABETH CARSS

TEACHERS COLLEGE,
COLUMBIA UNIVERSITY

Training for citizenship—By JOSEPH WARREN SMITH, A. M., attorney at law, formerly superintendent of schools, Bay City, Mich. Boston: Lothrop Publishing Co., 1902. 335 p. $1.50.

This treatise is divided into five parts, namely, elementary principles: the home, the school; the township and its government; the village, city, and county government; the State government; the national government. To the first part five chapters are devoted; thirteen to the second; eight to the third; five to the fourth; and six to the fifth.

The work thruout is eminently practical, the author having seized upon and emphasized in just proportion the following features—the social, the legal, the historical, and the constitutional elements as the strong background upon which our whole fabric of government rests. In a very simple, practical manner the proprieties of the home life and its reciprocal relations are illustrated and enforced, leading out gradually to the school and its functions in matters of instruction, discipline, and government—defining rights and duties as each topic is unfolded, especially emphasizing individual rights and duties in all their various relations to that complex structure—modern social well-being. A very clear exposition of the principles of law is given near the beginning of the volume, in which sharp distinctions are drawn between common law, statutory law, administrative law, and jural law, and the limiting powers of government and the attitude of the different political units with respect to governments in general. The chapters on home training and school government are excellent. A sharp distinction is drawn between civil officers and other officials whom society obeys, because it lets them rule—such as pastors or trustees of a church, lodge officers, and the recognized officials of literary and social organizations.

From a historic point of view the chapter on the congressional township is one of the most interesting in the book, and

it covers the subject in a very thoro and scholarly manner. Under the original conception, in the early settlement of the country, the township, or the parish, played an important part. In the South the function of the parish was religious, in New England it was partly religious and partly civil; in the newer States wholly civil.

The student of our civil institutions will in this work see why our entire system of government from the school district or township as a unit, is so thoroly democratic, and it is, as the principles are expanded to meet new conditions, simply an enlargement of powers already existing rather than the application of some new principles not previously implied.

The author adroitly circumscribes each department of government, whether of the township, the village, the city, the county, State, or nation, to its legitimate sphere, and illustrates how the one leads up to the one next above it without encroaching upon certain well-defined prerogatives that are so firmly established in our judicial system.

The author has also organized and put into form a vast amount of useful and necessary information in regard to persons, property, the practical machinery of every phase of our civil and judicial systems from the simplest forms to the most complex, and in non-technical language without the cumbersome verbiage of legal documents.

Under the head of the public school the author is pardonable in ascribing the initiative to Massachusetts; but it is a well-established fact now that the Hollanders started up schools on their own account in New York, so that there were geographically two independent centers of beginning instead of one.

Taking it as a whole, it is just such a book as every teacher should have on the desk every hour in the day, and for those teaching geography, United States history, or civics, it is the best elementary text with which I am familiar. It is written from the standpoint of the teacher and the lawyer. Both author and publishers are to be congratulated on the publication of such a valuable text.

J. M. Greenwood

Kansas City, Mo.

IX

NOTES AND NEWS

Married Women as Teachers

The New York Board of Education, one of the best and most public-spirited bodies in the country, has unfortunately been caught napping in respect to a matter of real importance. For some reasons not clearly understood it has fallen a victim to the delusion—common enough, to be sure—that marriage is of itself a disqualification for teaching. The following by-law has recently been adopted by the board:

> No woman principal, woman head of department, or woman member of the teaching or supervising staff shall marry while in the service. It shall be the duty of a District Superintendent to bring to the notice of the Board of Superintendents the marriage of any such person in his district, and such fact shall be reported to the Board of Education, which may direct charges to be preferred against such teacher by reason of such marriage.

The purport of this preposterous by-law is that marriage on the part of a teacher is an offense, on account of which charges are to be preferred. The intent, of course, is that if the fact of marriage is proved, the teacher in question is to lose her place.

The sound position on this subject unquestionably is that whether a teacher is married or not, or whether, being married, she is or is not occupied with her domestic duties to the extent that might be desirable, is no more the business of the Board of Education than is the question whether a teacher is a Methodist, or whether, being a Methodist, she is punctilious, or the contrary, in her attendance upon religious services. The Board of Education is concerned with the character and effectiveness of teachers as such, and not with their marital condition or religious belief. In our judgment the by-law is an impertinence, and ought to be promptly repealed.

As a matter of fact, a goodly number of capable critics are continually affirming that the enormous number of unmarried

women teachers is a most serious defect in our whole elementary-school system, and that all possible steps should be taken to increase the number of married women in the teaching ranks.

Experience shows that, consciously or unconsciously, there lies behind all this opposition to married women as teachers some remnant of the spoils notion that a teaching post is a "place," and that a married woman ought to be "supported" by her husband, while the "place" goes to an unmarried girl dependent upon her own efforts. The New York Board of Education of 1903 consciously harbors no such notions as these, but it is not so certain that the action taken was not unconsciously based upon them.

Proposed Legislation for Chicago

The EDUCATIONAL REVIEW has called attention from time to time to the astonishing progress that has been made by Superintendent Cooley of Chicago in raising the standard of public-school administration in that city and in establishing the principle of expert control over purely educational matters. In the REVIEW for November last Mr. Truman A. De Weese gave a careful summary of Mr. Cooley's work of two years past.

On January 7 the Chicago Board of Education voted to ask the legislature to enact into law the policies and practices that have been voluntarily adopted by the board and that have commended themselves. The form of bill recommended is this:

A BILL

FOR AN ACT ENTITLED

An Act to amend Article 6 of an Act entitled "An Act to establish and maintain a system of Free Schools," approved and in force May 21, 1889, by adding thereto a new section to be known as Section 23*a*.

SECTION 1. *Be it Enacted by the People of the State of Illinois, represented in the General Assembly:* That Article 6 of an Act entitled "An Act to establish and maintain a system of Free Schools," approved and in force May 21, 1889, be and the same is hereby amended, by adding thereto a new section, to be known as Section 23*a*, as follows:

SECTION 23*a*. The Board of Education shall appoint a Superintendent of schools whose term of office, after having served satisfactorily for one year, shall be five years, at a salary which shall not be decreased during

his term of office. The Board of Education shall, on the nomination of the Superintendent of Schools, appoint as many assistant superintendents as it may deem necessary, whose term of office and compensation shall be fixed by the Board, and who may be removed by the Superintendent, with the approval of the Board. The Superintendent shall have general supervision, subject to the control of the Board, of the course of instruction, discipline and conduct of the schools, text-books and studies; and all appointments, promotions and transfers of teachers, and introductions and changes of text-books and apparatus, shall be made only upon the recommendation of the Superintendent, and the approval of the Board. The Superintendent shall have power to suspend any teacher for cause. Appointments and promotions of elementary teachers shall be made upon the basis of merit, to be ascertained by examination and by length and character of service. Examinations for appointment or promotion shall be conducted by the Superintendent under regulations to be made by the Board. The Superintendent shall devote himself to the duties of his office, shall exercise a general supervision over the schools, examine their condition and progress, and shall keep himself informed of the progress of education in general. He shall make reports as may be directed by the Board, and shall be responsible to the Board for the condition of the instruction and discipline of the schools.

SECTION 23*b*. All Acts and parts of Acts in conflict with this Act are hereby repealed.

This very simple bill should certainly be promptly passed, and the recent long steps forward fixed securely on the statute book.

That Mr. Cooley and the Board of Education will be opposed, however, goes—we suppose—without saying. There are always persons in a large community who hold odd, distorted, or selfish views on matters of public education, and there are others who are honestly wedded to theories and practices that seem to us demonstrably wrong and undemocratic.

For example, this statement is typical of many: "It is proposed to take the control of the public schools of Chicago away from the people of Chicago and vest it in the State legislature." Of course, the answer is that there are no "public schools of Chicago," strictly speaking. There are "schools of the State of Illinois in and for the city of Chicago"; but under our form of government it so happens that the State is the sovereign power which alone can authorize or compel taxation for the support of schools. Naturally the State of Illionis legislates so that the officials directly in charge of the schools attended by the children of residents in the city of Chicago are chosen from

and by those residents, directly or indirectly; but this is not fundamental at all, it is merely a policy which experience and public sentiment approve and justify. The Chicago school officials themselves are State, not municipal, officers, as has been held by the courts time and time again. The schools are all State, not municipal or district, schools, and legislative control of them, in such form as wisdom and experience dictate, is a part of our American form of government.

Still another fallacy is the oft-repeated assertion that a board of education appointed by a mayor is in some way "farther from the people" than is a board chosen at a popular election. The contrary is the case. As things are in our municipalities the executive officers are the nearest and best representatives of the people, as well as the most trusted ones. Local politicians and ward cliques may think otherwise, but that is because they confuse themselves with "the people." The task of learning to separate the true from the spurious in democracy is a hard one, and we are still far from having completed it.

Huxley's famous description of a liberal education might well be posted conspicuously in every school and college in the land. It is this:

> That man, I think, has had a liberal education who has been so trained in youth that his body is the ready servant of his will, and does with ease and pleasure all the work that, as a mechanism, it is capable of; whose intellect is a clear, cold, logic engine, with all its parts of equal strength, and in smooth working order; ready, like a steam engine, to be turned to any kind of work, and spin the gossamers as well as forge the anchors of the mind; whose mind is stored with a knowledge of the great and fundamental truths of Nature and of the laws of her operations: one who, no stunted ascetic, is full of life and fire, but whose passions are trained to come to heel by a vigorous will, the servant of a tender conscience; who has learned to love all beauty, whether of Nature or of art, to hate all vileness, and to respect others as himself.

EDUCATIONAL REVIEW

MARCH, 1903

I

IMPRESSIONS OF AMERICAN EDUCATION[1]

At rare intervals in the history of a nation there comes a great outburst of physical and intellectual energy which, with overmastering power, carries forward the masses of the people, together with its leaders, in an exhilarating rush of common effort. In the United States of America such a movement is in progress to-day. It reveals its force at three points—the American workshop, the American office, and the American school. Of the tremendous power of the movement no one who has witnessed it can doubt. But whither it will lead he would be a rash man who would dare to prophesy. These great national movements often turn in new and unlooked-for directions with an accumulated force which breaks old bounds and tears entrance into new channels. Those who seem to lead the movement believe that they can guide it toward some chosen goal. But they often find themselves swept along in the flood toward some unexpected issue, thru gaps in ancient barriers which looked immovable, but prove to have been sapped and weakened by slow and hidden changes in national character and in national belief.

The great movement now going forward in American education is but one aspect of the national movement which is stirring to its depth the whole of American life. Hence its profound significance, not only to Americans, but to the Old World, and not least to us who, geographically, politically,

[1] An address delivered at the Annual Congress of the Educational Institute, Glasgow, Scotland, December, 30, 1902.

and spiritually, are, as it were, the link between the Old World and the New.

It is appropriate for us, here in Glasgow, to consider the meaning of these things. The fame of Glasgow is significant of sea power and of trading enterprise, and in regard to both of these the United States seem destined to play a great part in the world's history.

And it is fitting in a congress of Scottish teachers to consider what American schools and universities are seeking to accomplish for American life, because in the great movement now going forward for the deepening and strengthening of American education, men of Scottish or Scotch-Irish ancestry are bearing a prominent and influential part. These men are proud to trace back their descent to the Covenanters or to those Scottish Presbyterians who, settled in Ulster in the earlier part of the seventeenth century, found themselves driven to emigrate two generations afterward by the hostility of the English Parliament toward the flourishing growth of Irish manufactures.

Before I plunge into the details of my subject, I will venture to say one word as to the point of view from which to approach it. A great and famous Scotch philosopher, once, I believe an unsuccessful candidate for a chair in this University, used to say that the power of seeing the favorable rather than the unfavorable side of things is a turn of mind which is worth as much as being born to an estate of ten thousand a year. The Americans have this turn of mind. They prefer to talk about the bright side. They leave the dark side to one's natural powers of observation and of inference. No one can form a shrewd judgment on American education who merely sees what he is bid to see, and who refrains from employing his critical faculty as well as his organ of admiration. The comparative study of national systems of education is a delicate enterprise. The path to truth lies between Scylla and Charybdis; between harsh, censorious judgments of other people's failings and too ready belief in the superior merits of other people's achievements. But the first requisite for the intelligent study of a foreign system of education is sympathy. We must

do as we would be done by. We must endeavor to enter, to the best of our power, into the spirit of patriotism and self-sacrifice which always animates any living and progressive system of national education. Imitate it in any mechanical or literal way we cannot: profit by it we can, but in order to profit we first must sympathize. Look at the favorable side first; then the defects will reveal themselves in due course and in due proportion. Then, and not till then, the way is open to a measured judgment. But it is both good sense and good manners to think first and chiefly of the favorable side of a foreign system to which we are admitted with graceful hospitality and in the spirit of professional comradeship. And I am inclined to think that if we, as a nation, take to heart the favorable side of American education, we shall find it worth a good deal more to us than ten thousand a year.

1. The first thing to which I would draw your attention is the fact that America—progressive America—heartily believes in education. That is the heart of the whole matter. America believes in education. The American school is radiant with a belief in its mission, and it works among people who believe in the reality of its influence, in the necessity for its labors, and in the grandeur of its task. It is the old story. The essential thing is faith. Faith can move mountains of inertia, and ignorance, and class selfishness. This glowing faith in the power of education is the saving grace of modern American life. All witnesses agree on the one point that in education all intelligent Americans heartily and unfeignedly believe. I have even heard it said that they don't really believe in anything else.

The words of Washington in his Farewell Address fell on fruitful ground. "Promote, as an object of primary importance, institutions for the general diffusion of knowledge. In proportion as the structure of a Government gives force to public opinion, it is essential that public opinion should be enlightened." That is one of the first principles of American policy. The Monroe doctrine is the second. Round the frieze of the Public Library of Boston, Mass., there are carved in plain letters fifteen words which sum up this central doctrine

of American democracy: "The Commonwealth requires the education of the people as the safeguard of order and liberty."

Thus regarded, education becomes at once a national thing. Its chief power in America is to make Americans. Stand at the Battery in New York and watch the great liners coming up the Narrows from the Old World. That is the gate of America, and thru it pass the poor immigrants of varied nationality, bringing with them a strange medley of discordant ideals, and in some cases not a little anti-social distrust of law and government. These are the raw materials of American democracy. The school is the mill which grinds up these diverse materials into one consistence. Once let that machinery stand idle or fall into disrepair, and the civic unity of America is imperiled.

But national unity is a moral thing. The means of conserving it must therefore make use of moral, as well as of purely intellectual, influences. Patriotism, tho protected by identity of economic interest, has its deepest roots in other than self-regarding instincts. And to those hidden sources of national strength any education, worthy to be called national, makes confident appeal. This is the note of all that is best in the new educational movement in America. It seeks to touch the springs of character. Its ideal is not a selfish and exclusive culture, but scholarship engaged in social service. "It is not scholarship alone," if I may recall those stirring words of Dr. Chalmers, "it is not scholarship alone that tells on the great masses of society, but scholarship impregnated with religion."

2. Thus America believes in education because education is making America. But the essence of a democratic commonwealth lies in the individuality of its citizenship. This eager belief in individuality is the second characteristic of American education to which I would invite your attention to-day. American firms advertise for "a live man." The American primary school is determined to produce a live child. For some tastes it succeeds only too well, but that is another story. For the work of the earliest grades of American education, the

harshest critic would give little else than praise. In the first four years of school life the American child is stimulated to self-expression and self-realization by teachers skillful in their art, and unwearied in their practice of it. The brushwork, the modeling, the simple compositions, the beginnings of scientific education, which distinguish this stage of American education are often excellent. Much is done to produce alertness of mind and body and to cultivate the faculty and habit of self-expression. What is too often lacking, as a background to all this stimulation, is wise restraint and discipline at home. Many American parents, in their desire to give their children a good time, seem to shrink from exercising parental authority in matters in which home and school should work together, and in which the school may fairly claim the help of the home. That, however, is an evil not wholly confined to the western hemisphere.

The atmosphere of the American school and college is an atmosphere of equality and of independence. Energy and self-confidence thrive in it. Whatever else is sacrificed, the individual is encouraged to express himself and to realize his native capacity as best he may. This readiness to encourage individuality is a characteristic of American life. It has profoundly changed the organization of their universities thru the development of what was called "elective studies." The same lesson is working in their secondary schools. And we can see the same principle at work in American industry, where great pains are taken to encourage the individual workmen to make suggestions for the improvement of processes of manufacture or distribution, and where there is almost a passion for hearing new ideas and for experimenting with new appliances.

But thoughtful Americans perceive that to stimulate individuality and self-expression is only half the work of a good school. The other half is discipline. Is there not high authority for the belief that the true beginning of wisdom is desire of discipline? But just as the yearning for individuality implies a philosophical ideal in which the individual plays a determining part, so does the belief in discipline

postulate a social ideal—a striving after some ordered organization of society—in which the stress is laid on duties rather than on rights. And here it is that American thinking has been weak, and American life is at present somewhat thin and poor. In old days the strength of American character lay in the discipline of Puritan society. But the bonds of that society burst under the pressure of modern life, and then there rushed out a wonderful energy, which had been long confined within the restraints of the older discipline. This energy, this powerful individuality, carried the descendants of the old Puritan stock thru the chief part of their new task of subduing to settlement and to the needs of agriculture and industry the northern part of the United States as far as the Pacific by means of the adventurous courage of pioneers and the resources of applied science. But this stage is nearly accomplished. What is needed next is a new social discipline, a new social ideal, dominating the lives and inspiring the devotion of the common people. But this is the very point at which chaos reigns. The problem of problems in American education is to foresee the social organization for which the children must be prepared. No American writer discusses this question with a clearer sense of its urgency than Dr. John Dewey, of the University of Chicago. "We must make," he says, in his *School and society,* "we must make each one of our schools an embryonic community life, active in the types of occupations that reflect the life of the larger society, and permeated thruout with the spirit of art, history, and science. When the school introduces and trains each child of society into membership with such a little community, saturating him with the spirit of service, and providing him with the instruments of effective self-direction, we shall have the deepest and best guarantee of a larger society which is worthy, lovely, and harmonious." Yes; but how shall we set to work to get some clearer notion of what the duties, the relationships, and the extent of these future adult communities are going to be? And what, in preparation for such adult duties, is to be the task of the home as compared with that of the school? Dr. Dewey indicates the drift of the need

—a need not confined to America—but he throws little light on the future evolution of American society.

3. Thus the American believes in education, because education equips individuals for the tasks of American citizenship. But those tasks are changing, because applied science has changed some of the fundamental conditions on which rested the old order of society and the balance of power between the great nations of the earth. Applied science, too, has drawn into inevitably closer political relationship the nations of the Old World and the New. The American flag in the Philippines is the symbol of the change. Education therefore must change together with the change in the world conditions, because it is with the new conditions that education must train the rising generation to cope. This conviction that great changes are impending in the subject-matter of education is the third great characteristic of American educational thought to which I would call your attention to-day. In every type of school strenuous American teachers are endeavoring to tear out the non-essentials. "Don't be cumbered up with a lot of unnecessary luggage in education," the American teacher pleads, "cut down your transport; don't make your pupils carry an ounce of unnecessary weight; confine yourself to the essentials; revise all your old traditions; lop away all superfluities. There is so much that a man ought to know that we must reduce the cost of the production of knowledge to the lowest possible figure by employing labor-saving appliances in education, and by avoiding to the utmost the waste of precious time."

This is the mood of the vigorous American teacher. It is also the mood of the vigorous American manufacturer. "If I were asked," says Mr. Young in his recent *Review of the American cotton industry,* "if I were asked to attempt in a single sentence a definition of the improved management [which characterizes the American manufacturer], I should say it is this: unceasing study and close analysis of the costs of production, and unresting endeavor to diminish any and every element in them by any departure from existing routine, or by any outlay of additional capital which close calculation

may show to be probably advantageous. To follow this policy is no American monopoly. But to follow it successfully these are necessary—a trained intelligence, an untiring energy, a complete freedom from the trammels of tradition, and a certain bold tho calculating adventurousness."

May I, however, in passing suggest the doubt whether we are able at present to decide with any sort of certainty what are non-essentials in our system of education. The enthusiasts of the French Revolution thought that intellectual enlightenment would suffice to bring about the social millennium. We know how far their confidence was misplaced. Nor has the modern world, which owed so much to the humanitarian ethusiasm of the French Revolution, yet beaten its swords into plowshares. In 1791 the famous Dr. Anderson, of Glasgow, sent to the National Convention in Paris a prophetic gift—a model of a newly invented cannon. They hung it up with the inscription, "The gift of science to liberty." Liberty must sometimes wish that science had thought of giving her something else. Anyway, can we not imagine debate arising on the subject whether or not military drill is an essential or non-essential of the modern elementary and secondary school? And unless appearances are very deceptive, military excitement is not wholly distasteful to the young American.

4. Some people are fond of informing us that, in the future, the extension of national trade will depend a good deal on the magnitude and efficiency of national armaments. Be that the case or not, we may at least hazard the prediction that industrial and commercial success will require the fulfillment of four primary conditions: (1) hard work and imaginative power on the part of the directors of industry and their organizing subordinates; (2) the harnessing of applied science in the service of business; (3) intelligence and skill among the rank and file of the industrial army; and (4), not least important, honorable fidelity to contracts, expressed and implied.

The American man of business has clearly grasped some at least of these primary conditions for industrial success, tho it remains to be seen whether in the long run high

tariffs and trusts are making for the health of American industry. The American manufacturers and merchants believe in education, and, with conspicuous generosity, back their belief. They are convinced that it is necessary to the future welfare of American industry and commerce to have good education all along the line. One most remarkable thing in the democratic education of America is that Americans are not content with supplying floods of primary instruction, leaving the rest to rather desultory effort or to sectional interests; they have grasped the fact that for national welfare under modern conditions the highest and most costly types of technical and university training are as indispensable as the kindergarten and the primary school. That great Glasgow professor, Adam Smith, to whom modern industry owes so much, and whose individualistic philosophy has been on many sides so congenial to the American temper, had no doubt as to the wisdom of providing, by public effort, for the education of the common people: "An instructed and intelligent people are always more decent and orderly than an ignorant and stupid one." But he threw the weight of his great authority against the state organization, or public endowment, of secondary and university education. On this side, the influence of Adam Smith (in many respects invaluable) was, for two generations at least, a *damnosa hereditas* to British liberalism. But America, which followed Adam Smith's advice as to primary education, has had the good sense to go elsewhere for lessons in regard to higher technical education. It is Germany that has taught America that a great modern state must strain every nerve to provide the best, the most practical, and the most efficient training, in universities and technical high schools, not only for the older learned professions, but for all the new kinds of scientific calling brought into existence by the marvelous development of applied science, and by the consequent growth of industry, of commerce, and of scientific administration. This is the lesson which our own country has still to learn. It is possible we shall be more willing to learn it from America than from Germany. Canada is jogging our elbow, and Canada is largely

Scotch. There are signs that we are beginning to learn the lesson, but we have not yet faced the necessity for spending largely on the higher and more costly developmen of modern technological education. The American business men have rendered their country a great service by insisting on the provision of the best kind of higher technical education. If the practical business men in Great Britain take the same view, and press as vigorously for the best and highest type of technical education, and for a modernized liberal secondary education as its only sure foundation —then our battle is won. The American organizer of industry believes, as a rule, in the college-bred man, but he insists that the college-bred man shall begin, as the American saying is, with his feet in the dirt. Modern industry and business need the products of the highest education, but they cannot afford to pay for, nor will they put up with, fine academic airs and fastidious nonsense, or unwillingness to do the rough work which everyone must learn to do who means, in truth and thru and thru, to learn a trade.

May we not therefore sum up the chief favorable characteristics of American education in some such words as these? America heartily believes in education. Rich and poor make sacrifices for education because they believe in it. The United States is organized as a democracy. Therefore Americans believe in developing, by means of education, individuality of aptitude and independence of character. But America is in large measure an industrial and commercial democracy. Modern industry requires initiative, self-reliance, resource, imagination, and command of applied science, not to speak of deeper things. The American man of business realizes that schools and universities can help him by furnishing him with able assistants. He, therefore, encourages the leaders of American education to adapt their work to modern business needs. But he knows that this cannot be done without great expense, and he does not flinch from bearing his share of the cost. These new demands, however, are throwing a great strain on American schools and on American teachers. The latter feel that their work must be brought into

gear with modern needs. Therefore, American teachers are experimenting in all directions, with a view to dropping non-essentials out of education, and to lessening the cost of production of active-minded, scientifically equipped men of business and affairs.

So far I have endeavored to follow David Hume's maxim, and, with a few interjections, to look on the favorable side of things. But, if I may presume on your patience for a short time longer, I desire to say a few words about what seem to me weaknesses of education in the United States. Every nation, and therefore every national system of education, has the defects of its qualities; and he would be an inexperienced and misleading critic who should represent American education as wholly worthy of praise, and should fail to indicate in a spirit of sympathy and of scientific truthfulness, what in his judgment are the dark sides of so bright a picture.

1. Americans use a striking phrase to describe certain inflated and unsubstantial forms of commercial enterprise. They say they are "built on wind." Some such thought must come into the mind of a cultivated American when he listens to some of the maxims which pass for political philosophy in many Americans schools. How, for instance, would an intelligent boy in South Carolina harmonize in his mind the truth of those words near the beginning of the Declaration of Independence, "We hold those truths to be self-evident, that all men are created equal"—how would he reconcile that maxim, I say, with the horrid lawlessness of such a case of lynching as we read of in yesterday morning's paper, or indeed with the normal attitude of the Southern white to the colored people? There seems to me a taint of unreality in many of the phrases which are still current in American political democracy, and the close dependence of the majority of schools on the good will of public bodies must lead to a certain want of frankness in dealing with problems of popular government in that part of the school curriculum which aims at giving instruction in the duties of citizenship. It is a fact of evil significance that in America the word "politics" is generally used in a bad sense. It connotes undesirable forms of politi-

cal influence. And it is notorious that, in some cases, municipal corruption has baleful results in the sphere of educational administration.

2. In the second place, there is grave doubt whether the stricter forms of intellectual discipline have not been unduly sacrificed in many American schools. The besetting sin of some modern methods of education is that they stimulate interest without laying correspondent stress on intellectual discipline. As it were, they feed the children on sweeties and plumcake, in a strenuous revolt against an austere tradition of too much oatmeal porridge. The American passion for candy and ice cream finds its counterpart in the schoolroom. Nor does home discipline restore the balance. There are complaints in well-informed quarters that the younger Americans find it difficult to focus their attention on uncongenial tasks. Part of the mischief is that parents at home listen far too readily to their children's criticism on their teachers. Sometimes the teachers flinch from giving rebukes for fear of incurring a bad name in influential places. But a more insiduous evil is the tendency on the part of teachers to make lessons interesting by avoiding the harder, duller, and more disciplinary parts of the subject. Of course, this is all a reaction from the formality of the old tradition and from the dreary and somewhat heavy-handed dullness of an obsolete form of school discipline. And this reaction is again part of yet a larger one. The excessive desire for encouraging among young children what is called "self-realization," even occasionally to the point of impertinence, is a revolt from the repressive precision of the over-strict Puritan home.

3. Unreality and lack of severe discipline lead to a third weakness,—superficiality,—with its attendant evils, exaggeration in language and love of excitement. The Americans do not as yet sufficiently allow for the slow percolation of ideas into the mind. They make too many short cuts. They are too fond of the last new thing. They forget that a pupil gains true independence of taste and judgment, not by hastily absorbing the teacher's conclusions, or by listening

to selections made for him, but by slowly and thoroly working his way, under guidance and with encouragement, thru masterpieces as a whole, and thru masses of work bearing on his subject of study. In fact, is it not one of the chief differences between professional work and work that is amateur that the professional learns his business by going thru masses of the same kind of work often against the grain, while the amateur picks and chooses the things which happen at the time to take his fancy and to please his taste. All true culture has in it an element of stubbornness and persistence, which must be acquired, chiefly thru the lessons of life, but also thru the lessons of the school, which ought to prepare for life.

4. A fourth danger in American education proceeds from the tendency of American men to become unduly concentrated in business pursuits. The last thing for which I wish to hold a brief is want of application to business duties. But many Americans admittedly overdo their devotion to business affairs. They sterilize part of their nature by too great absorption in the excitement and struggles of commercial life. In the northern parts of the United States there is too little of what the writer of the book *Wisdom,* called the "diligence of idleness." Not that the American business man is sordid or pettifogging. On the contrary, he often brings to his business a strong power of imagination and a large gift of idealism. What he wants is not so much money for the sake of personal enjoyment, as money because it means power. He wants the intellectual and social distinction which are earned by marked business success. He wants to be counted with those who are effective, and who can bring things to pass. It is a great mistake to regard American business effort as mere dollar hunting. The real objects of pursuit are the power and the consideration which are conferred by wealth and by a great business reputation. But the practical result of all this concentration in business affairs is that the strength and interest of thousands of the strongest minds in America are drawn into the one channel of commercial competition. One is tempted to say that a special danger of American life is the pursuit of material success in the spirit of idealism, while the

converse danger in English life is the pursuit of ideal aims in the spirit of materialism. A great nation needs variety of interest, variety of culture, variety of type, and variety of standards of success. The number of the *Outlook* published in New York on December 13 contained a thoughtful article on this aspect of American life. "The country," it writes, "is full of men who are overworking, not because they care for money, but because they want to command the most comfortable conditions for their families, who, if they were told that they were shortening their lives ten years, would not hesitate to go on, accepting the sacrifice as part of their duty, and an opportunity to be welcomed rather than avoided. Those who know American men well know that there is a deep vein of idealism in the great majority of them in their attitude toward their families. It is here that they spend themselves lavishly; it is here that many give their lives without hesitation. But the American father does not always give wisely. The tragedy lies in the substitution in the family life of the material for the spiritual things, and for that exchange many men are unconsciously responsible. They are so eager to furnish comfort to their families that they forget to give life; they are so willing to surrender their strength and their time for those they love that they forgot to share themselves."

This overzeal for business forms an atmosphere which cannot but affect educational ideals. Intense absorption in commercial enterprise is not an aim worthy to dominate the thoughts and lives of the rising generation of a great people. Robert Louis Stevenson wisely said that "perpetual devotion to what a man calls his business is only to be sustained by perpetual neglect of many other things. And it is by no means certain that a man's business is the most important thing he has to do." There often rang in Stevenson's ears that noble answer of the Shorter Catechism to the question "What is the chief end of man?"

This subtle spirit of commercialism has worked another injury in American education. The training given in the primary schools has, as a rule, been far too much in the direction of clerical work. "Is it possible," writes Miss Jane Adams, of Hull House, Chicago, "that the business men

whom we in America so tremendously admire, have really been dictating the curriculum of our public schools, in spite of the convention of educators and the suggestion of university professors? The business man, of course, has not said, 'I will have the public school train office boys and clerks, so that I may have them easily and cheaply.' But he has sometimes said, 'Teach the children to write legibly and to figure correctly; to acquire habits of punctuality and order; to be prompt to obey; and you will fit them to make their way in the world as I have made mine.'" "Has," she asks, "the American workingman so far shared our universal American optimism that he has really believed that his children would never need to go into industrial life at all, but that all of his sons would become bankers or merchants?"

These are the impressions of American education which I desire to submit to your consideration to-day. I have dealt on the good sides, and also on what seem to me the darker sides of the subject, because it is necessary that we in this country should try to get a balanced view of the merits and defects of the educational system of a country which is in many ways so nearly related to our own. Too much depends for the future of the world on the outcome of the great educational movement in America for it to be becoming for us to rest content either with indifference in regard to it or with indiscriminate praise. Of all the educational movements now going forward in the world, that in America seems to me at present the most forceful and the most pregnant in great issues. It is of deep importance to British civilization that the relations between our country and the United States should grow closer and more friendly as the years go by. Teachers on both sides of the Atlantic can do much to foster this spirit of mutual sympathy and regard. And the more we study American life and American ideals, the more shall we come to admire the earnestness of American belief in education; the more shall we respect the pluck and devotion with which American educators are addressing themselves to their stupendous task, and the more heartily shall we wish them Godspeed in their efforts and a happy issue to their labors.

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II

THE SECOND YEAR OF EDUCATION IN THE PHILIPPINES

During the past school year the work of organization and extension of public schools in the Philippines has met with many difficulties and hindrances, for the most part fundamental in character. Asiatic cholera with all its attendant horrors has visited the archipelago, and thousands of people have perished of this dread disease. The caraboa, which is to the Filipino all that the horse, the cow, and the ox are to the agriculture of the United States, has been almost exterminated by the scourge of rinderpest and the problem of transportation thereby made doubly serious.

To these great public calamities, with their unfavorable effect generally upon the educational work, has been added the necessity for curtailment of expense on the part of the insular government, which curtailment has seemingly fallen most heavily upon the educational department, with very depressing results upon the work.

At one time within the past year the appointment of additional teachers was forbidden, even to fill vacancies caused by resignation or death; nor was the promotion of any teacher to a higher salary allowed. This ruling by the Commission naturally had a very demoralizing effect on the entire force of American teachers, the majority being teachers of more than average education and ability, who had come to the Philippines with the expectation of promotion and increase of salary as the reward of merit and experience in the service. Another deplorable result of this action was that schools already started and in a flourishing condition had to be closed in many localities, and the faith of the natives in the educational intentions of our government thereby severely shaken. Furthermore, appropriations for needed school buildings and supplies were re-

fused or cut down, and much of the material that would have rendered most effective the work of the trained American teacher has been wanting. In brief, the General Superintendent of Public Instruction has been in somewhat of the position of a manager in charge of a plantation with a large number of skilled laborers employed, yet without a sufficient quantity of tools suitable to make the work most effective, and without the means to encourage merit by promotion.

However, since the return of Governor Taft, these conditions have been alleviated, and the recent amendment of the school law by the Commission authorizes the General Superintendent of Public Instruction to maintain the number of American teachers at one thousand, and provides for the promotion of worthy teachers.

In spite of the serious drawbacks above enumerated, an almost incredible amount of work has been accomplished within the past year, and the present educational situation is very encouraging. At the beginning of the year a deputy superintendent of schools was appointed for each province, and by recent Act of the Philippine Commission the provinces have been advanced to the dignity of school divisions, 36 in number, each to be in charge of a division superintendent of schools. While the reports show that there were 765 American teachers in the field at this time last year, 572 of these had just arrived and started for their stations. The work done prior to October 1, 1901, was really accomplished with less than 200 American teachers. But this year 926 American teachers, including division superintendents, have been engaged in the work. English instruction has been provided for 1838 schools, in which 200,000 children have been enrolled, and 400 night schools for adults and for those unable to attend day classes have been opened with an enrollment of 25,000. In addition, 23 high schools have been established with an attendance of more than 1500. Salaries of Filipino teachers have been increased, and a definite announcement has been made to them that the American teachers are not here to displace them, but to prepare them to take charge of their own schools. During the year 3400 native teachers have been employed in the educational work.

These Filipino teachers have received daily instruction in English, and when they have progressed sufficiently in the language itself, they have been taught methods of teaching.

The Manila Normal School, for the training of native teachers, has been enlarged and improved under the efficient management of Dr. E. B. Bryan, and vacation normal schools have been conducted in the various school divisions. Courses in normal instruction are also provided for in the new provincial high schools.

Industrial instruction has not progressed rapidly, but the industrial school at Manila has at present a steady attendance of 149, and plans have been made and appropriations secured for four other industrial schools. In the industrial field, the native prejudice against work has been a great drawback, as well as the lack of suitable tools and materials. Perhaps the most attractive class in the Manila Trade School, from the native standpoint, is that of telegraphy with 85 Filipino members.

From the foregoing brief statement it will be seen that a substantial start has been made toward educating the Filipino people, an undertaking of incomparable magnitude, for this archipelago, with its 21 Negrito tribes, its 16 Idonesian tribes, and its 47 Malay tribes, differing very greatly not only in degree of civilization, but in language, in disposition, in customs, and in laws, presents about as many difficulties to the establishment and administration of a modern scientific school system as can well be imagined.

The wisdom of Superintendent Atkinson's policy of making the English language the basis of all primary instruction from the start has been thoroly demonstrated. To-day everywhere within the radius of influence of the American teacher, instruction is being carried on in English, and text-books in arithmetic, in geography, and in other common-school branches are in the English language. Perhaps the best illustration of the advancement made in English education within the last two or three years is the fact that thousands of Filipino students, who had never heard a word of English three years ago, are to-day able to receive instruction in the common-school branches given in that language. Two years ago there were

less than 200 native teachers who could give any instruction in the English language; to-day there are more than 2000 actually teaching in this language and daily putting in practice methods and ideas learned in the American-taught normal schools and from American teachers.

The American teacher has become a recognized power in these islands, and no one acquainted with his work can doubt the wisdom of his coming. In the face of the splendid results he has accomplished, his critics have become silent. The advent of his influence marks the withdrawal of troops and the general betterment of the community. The following telegram speaks for itself, and it is but one of the many of similar nature received frequently:

HEADQUARTERS SIXTH SEPARATE BRIGADE, TACLOBAN,
June 28, 1902.

GOVERNOR WRIGHT, Manila:

Have just returned from a trip around Samar. I found conditions much better than expected. I think everything is all right. A few school-teachers would be of great advantage to island. Fifty teachers could take the place of a regiment of troops.

GRANT, Brigadier-General.

The American teacher in the Philippines is something of a missionary, more of a pioneer, and always an American citizen. His duties, responsibilities, and opportunities are great and constantly increasing. On this subject, I can do no better than quote from the recent report of the General Superintendent:

The problem before the American teacher is one requiring the greatest amount of thought. The teacher is needed but a short time each day, but the diplomat must be on duty continuously. As a rule, the American teachers have been most cordially welcomed, and have at once apparently become a necessity to those to whom they have been sent. Many are far removed in the interior, living on the native food, miles away from the nearest American, with only a glimpse now and then of the outside world thru the medium of a poorly equipped mail service—but with all these drawbacks, there is a bright side to the work, as is shown by the following remark made by an American woman from a New England State, "I really tremble to think of what I should have missed if I had not come to the Philippines."

The responsibilities of the teachers are great, when the situation is looked upon from a broad standpoint, but it is a grand opportunity to

bring out all the manhood and womanhood that there is in them. That the majority are rising to meet this opportunity augurs well for the success of the educational movement and is a high tribute to the character and ability of the American teacher, proving conclusively that they will do their share toward the pacification and upbuilding of this Archipelago. The following extracts from the report of one of the division superintendents are of interest:

"The American teacher in the Philippines, and the problems which he must strive to solve, are not fully appreciated by those who have not been eyewitnesses to his work and surroundings.

"His chief duties are to teach five hours a day; to instruct the [native] teachers of the central school one hour daily; to organize, after his day school is running smoothly, an evening class for adults and to meet them three times a week for one hour and a half each time; to be tactful and patient in dealing with everybody he meets—especially the presidente.

"The surroundings to which he must adapt himself are hard and, above all, strange. There are only two ways in which he can provide food and quarters for himself. When two teachers are assigned to one pueblo, they can arrange for their own mess, hiring a cook and a muchacho. When there is only one, the situation is serious. He cannot afford to keep up an establishment by himself. If he is the only teacher in the pueblo and the pueblo is garrisoned, he has, in many cases, been invited to mess with the commanding officer. I have never heard of a teacher refusing this invitation.

"For one week, at least, after his arrival at the place to which he is assigned, the teacher is discouraged. From this time on he improves—that is, in four cases out of five. By this I mean that he takes hold of the situation and makes the most of it. He becomes interested in his work and makes friends among the leading people, interviewing members of the city council, explaining matters to the presidente, and winning his way.

"From the presidente to the smallest urchin, admiration for the American women in the provinces is unfailing and never-ending. The school children adore her. Their attentions become a burden, and it requires the nicest ingenuity to avoid giving offense and yet to have sufficient time for rest and recreation. The schoolhouse for girls is filled by 7.30 in the morning. In the afternoon they accompany the 'maestra' home. When the 'maestra' walks out the pupils waylay her and before she reaches her home again there are many 'compañeras.' If the 'maestra' wishes anything, there is a scramble to see who can have the honor."

The American teacher is the chief factor at present. The success of this great educational experiment depends upon his ability to establish sympathetic relations with Filipino pupils, parents, and teachers; to work day and night conscientiously and tactfully; and then patiently to await results. He needs to possess, besides scholarship and professional training, ready tact, plain common sense, a warm heart, and colossal patience. It should be noted that nowhere in the United States are the qualifications

for elementary teachers any higher than those exacted as a general rule by the Department of Public Instruction here in its appointment of teachers. They are either normal or college graduates and the majority of them have had at least two years' successful experience. Good health is required, and personal habits and character must be vouched for by proper authorities.

Success or failure, in a country like this, depends on the personal idiosyncrasies of the individual. Ambitious, restless young men, with perhaps a too great anxiety to get on in the world, placed in surroundings very different from their native land, especially if surrounded by discomforts, will naturally become discontented and, seeing the difficulties of the situation only from the one side, will be free in criticism. The General Superintendent wishes to express his great appreciation of the excellent character of the work done by the large majority of American teachers in the field during the past year, to testify to his appreciation of the great discomforts and long delays which have been patiently borne by them, and the help given by the teachers toward solving the problems which are inseparable from pioneer educational work in a country far removed from home and friends, in a different climate and among a babel of dialects. That so little complaint has been made is a striking illustration of the enthusiasm and perseverance with which the teachers have entered upon their arduous work and with which they have carried it thru.

The work of the American teachers during the cholera epidemic, which in many of the most populous provinces reached its culmination during the school vacation, cannot be too highly commended. In many cases, the teacher was the only American in the town. In some cases, there was not even a native or a Spanish doctor. Some teachers with a little knowledge of medicine, and all thru their knowledge of hygiene and sanitation, accomplished wonderful work in preventing and suppressing the dread disease. In the remoter towns, isolated from prompt aid which alone can save life when the most dreaded of all scourges makes its attack, with no command to remain, with the allurements of foreign travel during the vacation put sternly into the background, with no relatives or intimate friends to protect or to encourage them, these noble men and women fought by night and by day, week after week, for the lives of an alien people, with no thought or chance of reward, with a heroism that is far above the bravery of the soldier fighting a foe that can be seen and known. The United States may justly be proud of the bravery of its soldiers in these islands, but it should also remember that the peaceful army of teachers has shown a nobleness of spirit, a self-devotion to the services of humanity, a steadfastness and bravery of soul, that is rarely excelled. Nor did all escape unscathed. Those who died of the cholera were Robert R. Jamison, R. Zumstein, William H. Badger, and Herbert Lucker.

As always will be the case, among people coming from a temperate climate into the tropics, there has been considerable sickness among the American teachers. On the other hand, a large proportion of the teachers have been in excellent health during the entire time of their service here. In cases of severe sickness, teachers have been advised and permitted to return promptly to the United States.

The total number of deaths among American teachers in the Philippines to date is 15. Of this number, 1 was drowned; 4 died of the cholera; 4 were murdered by native *ladrones,* and the others resulted from various natural causes. The case of the murdered teachers is typical of many similar ones among the soldiers and constabulary, but it was a great shock to the Department of Education, since it was the first loss of the kind in the force of teachers.

On the morning of June 10, 1902, Messrs. John E. Wells, Louis A. Thomas, Ernst Heger, and Clyde O. France started from Cebu to the foothills north of the city for the purpose of enjoying a day's outing in the mountains and taking pictures of the scenery. They were warned by Constabulary Inspector Ross of the great danger from outlaws in these mountains, but it seems that they considered the danger exaggerated and decided to risk the trip. Nothing further was seen of them until their bodies were brought back to Cebu on the 23d of July following. The details of the long search and final recovery of the bodies, of the killing of the leader of the outlaws that killed the teachers, and of the capture of other members of the band have been well told in official reports and serve to illustrate the great difficulties attendant upon the maintenance of law and order in these islands.

The whole Philippine problem is more or less an educational problem, and the sooner this fact is recognized the better it will be for the public welfare. I believe that it is conservative to state that the Bureau of Education has done more within the past two years to give these peoples a true conception of the benefits of civilization and good government than all the other influences ever brought to bear on them thruout all time, with the possible exception of the Christianity brought to them by the Catholic Church. A combination of the religious forces with those of education would make the greatest possible power for good, and it is confidently expected that this desideratum will be brought about under the management of the new Commissioner of Education, Mr. Justice James F. Smith, formerly Colonel of the First California Volunteers and Brigadier-General U. S. V., who succeeds Commissioner Bernard Moses.

General Sm ch is a Catholic and a good American citizen, with broad legal, business, and official training. He has a thoro experimental knowledge of the conditions here, and his appointment meets with the hearty approval of the Americans in these islands.

No successor to the General Superintendent has been named at this writing.[1] Dr. Atkinson's resignation is generally deplored, as he had a thoro grasp of the situation and the confidence and respect of both Filipinos and Americans. He has accomplished much since he took charge of the work two years ago, and had he not been, to some extent, hampered by unfortunate conditions hereinbefore mentioned, it is believed that even a greater advance would have been made.

The future of the Filipino people is closely identified with the future of the educational movement in their behalf. Success or failure for the one means success or failure for the other. If the United States truly has at heart the best interests of the people of this archipelago, it can bestow upon them no greater beneficence than much-needed financial aid for their public schools. A Congressional appropriation of ten million dollars for Philippine education would do more toward the entire pacification and ultimate welfare of these islands than a hundred million dollars spent in maintaining armies, courts, and police.

FREDERICK W. NASH

MANILA, P. I.

[1] Since this was written announcement has been made of the appointment of Dr. E. B. Bryan to succeed Dr. Atkinson.—EDITOR.

III

BEGINNINGS IN COMPULSORY EDUCATION

Frequently the opponents of compulsory education in the United States have based their objections on the ground that it is monarchical in its origin and history. This was the stock argument against the Edwards Law in Illinois, and the Bennett Law in Wisconsin, in 1890. In both States political propagandists, interested only in spoils, succeeded in convincing certain classes that compulsory attendance laws were not only "Prussian in origin," but were "instruments of despotism" that should have "no place in the statute books of a free government." Common as the idea has been and still is that obligatory school laws originated in Prussia, it is wholly erroneous. It was not until October 24, 1713, that Frederick William I. issued the mandatory orders that developed into the Prussian system."[1] Then such laws had been tested by the ecclesiastical state of Geneva, the Estates of Navarre, and the duchy of Würtemberg. Such laws, too, had been in successful operation in Massachusetts for seventy-five years, and in Connecticut for nearly the same time.

Compulsory education, as understood in modern times, had its origin in the desire for universal education that accompanied the Reformation. The principle that "the safety and strength of the state" is in an educated citizenship, and its sequence that the state has not only the right to establish schools, but that it is its duty to do so, and, if necessary, "compel the attendance of its youth upon them," are both Lutheran in origin. They constitute the fundamental doctrines of the great reformer's address to the mayors and aldermen of Germany in 1524.[2] Thru

[1] The king issued the first law September 28, 1717. For its provisions see *Geschichte der preussischen Politik*, von Joh. Gust. Droysen (Leipsig, 1869), Vierter Thiel, dritte Abtheilung, Seite 418.

[2] An die Bürgermeister und Rathsherren aller Städte Deutschlands sie christliche Schulen, aufrichten und halten sollen.—Dr. Martin Luther's refor-

such propagandists as the "gentle Melancthon," Myconius and Justus Jonas, and with the aid of such wise rulers as Frederick the Wise and John the Constant in Saxony, and Duke Christopher in Würtemberg, they became by the close of the sixteenth century an essential part of the educational creed of Protestant Germany.

Calvinism was not different from Lutheranism in its provisions for education. When Calvin founded the ecclesiastical state of Geneva in 1542, he made education universal and, so far as he was able to realize his plans, it was obligatory. From Geneva Calvinism went to France, the Estates of Navarre, Scotland, and England. From France it went to Holland, and from England it was carried to America. In 1560 the Protestants of France urged unavailingly both universal and compulsory education.[3] Eleven years later, on the recommendation of that devout Calvinist, Queen Jeanne d'Albret, the Estates of Navarre passed a law making primary education compulsory. What Calvin did in Geneva John Knox attempted in Scotland. But Knox did not have the support of the civil authorities, and it was not until 1633 that an act for the establishment of schools passed Parliament. This act provided that "a school should be established in every parish, and the lands be assessed for that purpose."[4]

Early in the history of the Reformation Holland attained a higher standard of popular education than could be found elsewhere. Motley, in speaking of the institutions of Antwerp, says: "The schools were excellent and cheap. It was difficult to find a child of sufficient age who could not read, write, and speak at least two languages."[5] Professor Ludwig Häusser agrees with Motley. He says: "It is expressly stated in histories of the country that, notwithstanding its prosaic devotion to trade and commerce, learning, the arts, and earnest endeavors

matorische Schriften von Karl Zimmermann (Darmstadt, 1847), zweiter Band, Seite 517.

[3] The *History of pedagogy*, by Gabriel Compayré (translation by W. H. Payne, A. M., Boston, 1886), p. 120.

[4] *Report of commissioner of education*, 1889-90, vol. i. p. 221.

[5] *The Rise of the Dutch republic*, by John Lothrop Motley (New York, 1875), vol. i. p. 84.

after improvement, were equally cherished; that, besides the universities, there was everywhere excellent schools which had more thoroly imbibed the modern humanistic spirit than any other, and that culture extended even among the people. 'There was no country,' says a contemporary historian, 'where learning and culture prevailed so widely as among us; even in the Frisian fishermen's huts you might find people who could not only read and write, but discussed scriptural interpretations as if they were scholars.' Even if this is an exaggeration, it is well known that amidst their material prosperity a real desire for mental culture had spread among the lowest classes of the people. Friends and foes bear witness that in these countries the conditions of material and mental prosperity were combined to a rare extent."[6] As the Reformation advanced, greater zeal for the education of the masses followed. The first Synod of Dort met in 1574. This body passed a resolution urging "the servants of the church" to obtain permission from the magistrates to appoint schoolmasters in every locality. In 1852 the Estates of Friesland decreed that "the inhabitants of towns and villages should within the space of six weeks provide good and able Reformed schoolmasters, and those who neglected so to do would be compelled to accept the instructors appointed for them."[7] In the next year Zealand passed a law insisting upon education because "it is the foundation of the commonwealth." In 1586 the Synod attempted to make schools universal. It was ordered that schools should be everywhere provided with good schoolmasters to instruct the children of all classes of persons in reading, writing, rhetoric and the liberal arts as well as in the doctrines of religion and the catechism of the church." By the close of the century schools for the people had become municipal institutions and were paid for as were other expenses of municipalities.

In England during this period the state did very little for the cause of universal education. In all two hundred and fifty

[6] *The Period of the Reformation*, 1517–1684, by Rudwid Haüsser (New York, 1873), p. 288.

[7] *The Puritan in Holland, England, and America*, by Douglas Campbell (New York, 1892), vol. ii. p. 340.

grammar schools were established by the state and by private donations. These schools were for the middle class. They gave opportunity for education beyond primary instruction. What the masses of the people needed was primary instruction. This the state failed to provide. It came only by private benefice when the Reformation was far advanced.[8] Such was the origin of modern compulsory education, and such the progress that universal education and the principle of compulsion had made at the end of the sixteenth century. The next decisive step was taken on the American continent by the New England Puritans.

Many of the first settlers of New England had been trained in the best schools and universities of England. They were pre-eminently religious and had an abiding faith in the Calvinistic doctrines they had espoused.

Because of religious and political persecution in their native land they had come to a region uninhabited save by savages. Even here, amidst all sorts of physical dangers, they regarded ignorance as their worst enemy. It was "the covert of the papacy" and of every form of political despotism. Accordingly, as early as July 20, 1629, a school was established. In 1635 Boston took a more advanced step and made provisions for a public school. Philemon Pormant was appointed teacher. Pormant soon attached himself to the Antinomians and went to Exeter with Wheelwright. He was succeeded by the Rev. Daniel Maude.[9]

As the immigrants increased in numbers it became evident that more definite and adequate provisions for education should be made. On June 14, 1642, the General Court passed an order requiring all families "to teach, by themselves or others, their children and apprentices so much learning as may enable them to read perfectly the English tongue and to get knowledge of the capital laws, upon penalty of twenty shillings for each neglect therein."[10] Five years later, November 11, 1647, that

[8] *The State in its relations to education*, by Henry Craik, M. A., LL.D., (London, 1884), p. 6.

[9] *History of New England*, by John Gorham Palfrey (1860), vol. ii. p. 47.

[10] *Records of Massachusetts colony*, vol. i.

well-known law was passed beginning, "It being one chief project of yt ould deluder Sathan, to keepe men from the knowledge of ye Scriptures, as in an unknown tongue, so in this latter time by persuading from ye use of tongues, yt so at least ye true sence and meaning of ye original might be clouded by false glosses of saint-seeming deceivers, yt learning may not be buried in ye graves of or fathers in ye church and commonwealth the Lord assisting or endeavors."[11] Then follows the order that all towns numbering fifty householders should appoint one of the community to teach the children to read and write. Whenever a town increased to one hundred householders it was required to establish a grammar school to fit the youths for the university. The failure of any town to comply with these regulations was to be punished by a fine of five shillings, to be paid to the nearest school until the order was obeyed. In these statutes of 1642 and 1647 the parent was placed under legal obligations to educate his children, and the towns were placed under obligations to make adequate provisions for the education of all its youths.

As some of the towns failed to establish grammar schools, the penalty was doubled.[12] This was in May, 1671. Twelve years later an addition was made to the law. All towns of five hundred families or more were required to establish and maintain two grammar and two writing schools.[13]

Before the union with Massachusetts colony in 1671, very little was done by Plymouth for the education of its youth. Soon after the Massachusetts statute of 1647 Plymouth enacted a similar one. It seems, however, to have been a dead letter. As late as June, 1674, there was but one public school in the colony. This was at Plymouth.[14] In 1633 the General Court recommended that the several townships of the colony should organize schools.[15] This recommendation availed little.

[11] *Records of Massachusetts colony*, vol. ii. p. 203.

[12] *Ibid.*, vol. iv. part ii. p. 486.

[13] *Ibid.*, vol. v. p. 414.

[14] *An Historical memoir of the colony of New Plymouth*, by Francis Baylies (Boston, 1866), part ii. p. 93. See also *History of free schools in Plymouth colony*, etc., Massachusetts Historical Collections, second series, vol. iv. pp. 79–96.

[15] *Records of Plymouth colony*, 1623–1682, p. 211.

Ten years later more effective measures were taken. Then the court ordered that the thirty-three pounds a year necessary to defray the expenses of the free schools of the colony should be paid from the profits of the fishing at the cape. This order, however, was a provisional one. It was to continue in force only so long as it was necessary for the court to learn "the minds of the freemen concerning it." The freemen approved, and at the meeting of the court in the next year the order was confirmed.[16] In November, 1667, the court voted that all towns of fifty families should establish grammar schools; all towns of seventy or more families not having such schools were required to pay five pounds to the next town that had complied with the provisions of the statute.

When the union between Massachusetts and Plymouth was effected the laws of the former colony superseded those of the latter. This was accomplished in 1692 by a province law which re-enacted all the colonial statutes of Massachusetts except one passed in 1683. This province law remained unchanged until 1702, when the penalty for failing to establish grammar schools was fixed at twenty pounds per annum. The penalty was again increased in 1718. Upon towns of one hundred and fifty families it was fixed at thirty pounds. It was increased ten pounds for towns of two hundred families; and raised in the same proportion for towns of two hundred and fifty and three hundred families.[17]

These laws with slight modification continued in force until 1780. In the constitution adopted in that year the legislature was given authority to require the people of the State to make provisions for the education of the youth, and to compel their attendance upon the schools thus provided.[18] This authority was exercised in 1789. On the 20th of June, in that year, an act "for the instruction of youth, and the promotion of good education" was passed. The principle underyling this statute was the same which characterized the colonial laws from the very first. The establishment of schools was made compulsory. All towns of fifty families and less than one hundred were re-

[16] *Records of Plymouth colony*, p. 237.
[17] *North American Review*, vol. xlvii. p. 280.
[18] The Constitution of Massachusetts, 1780, art. iii.

quired to support one or more schoolmasters to teach the English language six months in each year. Failure to comply with this provision was to be punished by a fine of ten pounds. If a school had been kept for a part of the six months, then a proportionable part of the fine was to be assessed for such time as the school was not in session. Towns of one hundred families and less than one hundred and fifty were required to support a school during the entire year. If no school was kept, the fine was twenty pounds. If the school was kept part of the year only, then a proportionable part of the fine was assessed for the time the school was not in session. Towns of one hundred and fifty families were required also to keep a school during the entire year. Here the penalty for failure was again increased. For keeping no school at all it was thirty pounds; and a proportionable part of this for the time the school was not in session, if it had been kept for a part of the year only. The statute also provided a penalty of thirty pounds for the failure of towns and districts of two hundred families and upwards to establish grammar schools.[19]

The school legislation of Connecticut during the seventeenth and eighteenth centuries was much like that of Massachusetts. The first Connecticut code was adopted in 1650. In this was a provision for obligatory education that was almost a literal transcript of the Massachusetts statue of 1642.[20] Five years later New Haven adopted a code entertaining similar provisions. Both colonies, however, had schools prior to the adoption of these codes. In Hartford a school was kept as early as 1637 or 1638 by John Higginson, who was afterwards minister at Saybrook and Salem. New Haven colony was settled in 1638. The next year mention is made of a school in the records which seems to indicate the existence of one at this early date.[21] In 1641 it was ordered that "a free school shall

[19] *The Laws of the Massachusetts commonwealth, from November 28, 1780, to February 28, 1807* (Boston, 1807) vol. i. p. 469.

[20] *The Public records of the colony of Connecticut prior to the union with New Haven*, p. 520.

[21] *History of common schools in Connecticut*, by Henry Barnard, LL. D., in Barnard's *Journal of education*, vol. iv. (1858), p. 659.

be sett up in this towne." Mr. Ezekiel Cheever, to whom, with Elijah Corlet, Cotton Mather gave the praise of having saved New England from barbarism, was the first teacher.[22]

These provisions in New Haven remained in force until the colony was united with Connecticut in 1665. Then the laws of Connecticut superseded them. No change was made until 1671. In that year a revision of the laws was begun. This was completed and approved by the court the following year. The new code retained the obligatory provision of 1650. In addition there was a requirement for the establishment of a grammar school in every county.[23] The efficiency of the new code was increased greatly when the General Court ordered in 1677 that every town should forfeit five pounds for the support of the grammar school in that county, if it failed to keep a school above three months in a year.[24] At nearly the same time an act was passed that required any county town that failed to establish a grammar school to pay to the next town in the county an annual fine of ten pounds until such a school should be established.[25] In 1690 the court ordered the establishment of two free grammar schools, one at Hartford and the other at New Haven.[26]

A second revision of the laws took place in 1702. This revision was published two years later. It retained the "Act for Educating Children" as it was in the code of 1650. There were also two new features. A tax of "forty shillings on every thousand pounds of the list of estates" was to be collected in every town with the annual tax of the colony. This tax was to be distributed to those towns only that kept their schools according to law. The other new feature was one that required all towns of seventy or more families to keep their schools eleven months in the year. Towns of less than seventy families were required to keep their schools not less than six months.

[22] *Records of the colony and plantation of New Haven from 1638 to 1649*, p. 210.

[23] *Colonial records of Connecticut*, 1665 to 1678, p. 176.

[24] *Ibid.*, p. 307.

[25] *Ibid.*, p. 312.

[26] *Colonial records of Connecticut*, 1689 to 1706, p. 31.

In 1715 an act was passed to effect a more faithful execution of the "Act for Educating Children." In 1717 the law of 1700, which required towns that had seventy or more families to keep their school eleven months in the year, and towns with a less number of families to keep theirs six, was extended to parishes or societies having that number.[27]

In October, 1742, the General Court passed an act for a better regulation of the schools. In the same year, too, a committee composed of Roger Wolcott, Jonathan Trumbull, Thomas Fitch, and John Bulkley, was appointed to make a revision of the laws. This revision was not published until 1750. With a slight alteration, the "Act for Educating Children" was retained as it was in 1650. Another revision was made by Roger Sherman and Richard Law in 1783. The General Court, after careful consideration, at an adjourned session accepted this revision in January, 1784, and ordered it published. In the new code the obligatory provision of 1750 remained unaltered.[28]

Thus, at the close of the eighteenth century, schools for the people were demanded by monarchical Prussia and democratic New England. The educational principles of Luther and Calvin had become dominant. There was no question as to the right of the state to establish schools. It was acknowledged too that the state had the right to compel the attendance of its youth upon the schools it provided. Massachusetts and Connecticut asserted these principles and demonstrated their truth by legal enactment earlier than Prussia. But when Frederick William I. came to the throne, thru him and the greater Frederick Prussia demonstrated their truth as completely and with as much vigor as ever had been done elsewhere in the Protestant world.

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[27] *History of common schools in Connecticut*, in Barnard's *Journal of education*, vol. iv. p. 698.

[28] *Ibid.*, 703.

IV

THE CORRELATION OF MATHEMATICS

In the evolution of our educational system we have reached that stage where the organization of the curriculum is of great importance. In the past there has been long controversy concerning methods as applied to individual studies and much discussion as to the amount and variety of subject-matter to be taught; but a further profitable consideration of these questions must now wait upon the development of some principle of unification under which studies may be presented to the student with greater intelligibility and economy. The times seem to have changed. Formerly the schools dictated to the public the subjects they proposed to teach; but nowadays it is practically the public that dictates to the schools. The old academic barriers and boundaries have been effaced and the ancient landmarks of teaching have disappeared before the insistent demand that the school shall deal with problems that are directly derived from the needs of common life. This change in the attitude of the public has been comparatively sudden, and the schools, stiffened with long adherence to formal routine, find it almost impossible to cope with the rapidly changing conditions and new duties that are now thrust upon them.

In reorganizing the curriculum there are two things to be observed: first, a proper evaluation of the individual studies, and second, a determination of their natural interrelations. It is unfortunate that most teachers approach these questions with some personal bias which comes as an inheritance from their own student experiences and also from the fact that they, in many cases, have the point of view of a specialist in some particular branch of learning. The only chance for substantial progress in the reorganization of the curriculum lies in the common recognition of a few simple but fundamental principles that may be trusted to guide thru the dangers arising from personal prejudice.

It is trite, and it should be needless, to say that all learning stated in terms of psychology is simply image growth. All true teaching consists, first, in finding out what thought-stuff is essential to the well-being of the pupil and, second, in presenting it under the natural conditions which the laws of mental growth demand. In the last analysis the thought-stuff that furnishes the basis for the image is derived from energy manifesting itself thru the phenomena of nature of which man is a part. The presentation of these phenomena and the consequent mental reactions embrace the two essential factors in learning. From these are derived all the so-called subjects of study and upon these are based all true methods of teaching. The subjects thru which the manifestations of energy are presented are natural science and history; and the subjects thru which the mental reactions are directed include those by means of which the individual seeks to define his image. The first division includes what are sometimes called the thought studies, and the latter includes those which in the same classification are called form studies. Thought studies are those that have a knowledge content that is in itself of intrinsic worth independent of the process by which it was gained. Form studies include all the various modes of expression: making, modeling, painting, drawing, written language, associated with which are reading and spelling, oral language, gesture, form, and number. It is thru the use of one or more or of all of these means of expression that the image emerges from vagueness towards clearness, and finally becomes a definite product in consciousness. Each mode of expression has a special function in the process of image growth which is unique and which cannot be performed wholly by any other mode. It is the purpose at present, however, to deal only with form and number. In the growth of the image, it is the necessity for accuracy in quantitative results that makes a demand for form and number, and which gives to the various branches of mathematics a legitimate place in the curriculum.

The amount and kind of mathematical work to be provided for any given school course is not a matter of arbitrary legislation. Both are strictly determined by the demand that is made

in the various stages of image growth. This being true, it will be conceded that no subject has wandered farther than mathematics from the path of righteousness after false gods. Its isolation has become so complete as to be painful and it is almost universally considered as the bugbear of the curriculum. No class of teachers has done less towards bringing its subject into a vital relation with the work of other studies in the curriculum which involve the practical affairs of life, and yet the lack of no other subject more completely cripples the student in his thinking. Altho it is necessary only to refer to the history of the work done by the world's great mathematicians, to learn how inspiring the lessons in this subject may be, the schools still persist in stolidly feeding their pupils upon husks when they might feed them upon life-giving kernels of corn.

A cursory glance, even, thru any one of the scores of books on arithmetic, geometry, and algebra, that are now before the public will reveal at once the causes of the present barrenness of result in mathematical teaching. The problems are designed in the great majority of cases with absolutely no regard for the principles underlying image growth. Any dozen problems in any part of the book will deal with as many different subjects, and the opportunity for logical and consecutive thinking, so far as subject matter is concerned in the book as a whole, is wanting. Moreover, the problems deal uniformly with subject matter that possesses not the slightest interest for the pupil and for which he has no concern. Having thus divorced itself from thought-stuff of intrinsic worth, mathematics has become simply a science of empty processes. There is not another subject in the school that would thus dare desert subject matter, and, if it were not for the appeal which the study of processes makes to the puzzle instinct of the pupils, to an instinct which could be as well satisfied by a game of solitaire or chess, mathematics would not long survive in our schools. This condition is not confined to any grade or kind of school outside of those devoted to certain kinds of technical training. In the primary, and in the grammer grades, in the secondary schools and in much, and perhaps most, of the college work,

there is the same soul-stultifying grind with empty processes. It matters not what branch of the subject be considered, it is always the same. The arithmetics in vogue from the multiplication table to cube root are an assemblage of stupid tricks that vary almost like the fashions of the seasons and according to the wit of the instructor; geometry, a science of the function of form, a science of priceless value in the daily affairs of men, is an inextricable cobweb of triangles, rectangles, and the rest, that merely befuddle and weary the brain; algebra, the matchless method of dealing with the equation, without the principles of which our thinking would be absolutely impossible, has been so degraded that in the mind of the average student it ranks no higher than the puzzle corner in a country newspaper. This has all come to pass in spite of the fact that the processes in any subject are always easy when they are regularly developed thru an effort to form an image. They are easy because processes represent but the operations which the mind naturally performs in dealing with a given presentation of thought-stuff. They are simply a method of thinking. But when they are once emptied of their thought content, they necessarily become inexplicably difficult. The question of the hour in the teaching of mathematics is not how do pupils in their thinking develop ideas of exact quantitative results, but ideas of what quantitative results are worth developing.

In the face of this somewhat discouraging condition it is not specially cheering to consider the means generally suggested for its amelioration and improvement. Practically everything written deals with the processes. The desirability of useful and educative thought content is rarely considered. As a consequence the measures of relief proposed are generally of an absurd and random character and they usually appear under the guise of a "new method." Sometimes it is urged that there should be no number in the primary grades; then it is proposed to make it more palatable by the use of empty diagrams, of shoe-pegs, toothpicks, or toy money. Some time since it was thought relief might be obtained by introducing algebra into the grammar grades. But this has resulted in substituting for one set of meaningless symbols another set that

is even more mysterious. Once in a while somebody makes up a thin geometry and labels it "elementary," but so far as I am aware, with the exception of *My class in geometry* by George Iles, there is not a single one in existence that is not bound hand and foot to the method and form of the old Euclidean theorems.

The singularly unfortunate position in which mathematics finds itself is due in part to the mistaken idea that a constant manipulation of mathematical formulæ has a peculiar disciplinary value whether they give any decidedly useful result in knowledge or not. The student who finds himself able to work his way thru a long mathematical puzzle but which contributes in no way to an image of educational value is supposed to have acquired a considerable amount of very desirable mental discipline. This, however, is considered a false educational idea when applied to any other subject, and it is contrary to history, which shows that the great mathematicians of the world have always acquired their disciplined powers while in the pursuit of knowledge having intrinsic worth. The dissociation of mathematics from its thought-content seems to rest still further upon a mistaken idea as to the nature of abstract reasoning. By permitting their pupils to use their mathematics as a means of determining the quantitative relations of the image, teachers fear that the mind will become so accustomed to the presence of objects that it will never be able to get along without them. If by this it is meant that their mathematical work would always be related to actually useful and material things, then it is an end to be devoutly wished. If it is the fear, however, that the student thus trained to use his mathematics will always find it necessary to work with yardstick in hand, and the object to be measured immediately before him, then the fear is utterly groundless. The same objection has been raised time and again in the teaching of other modes of expression and, as often, it has been shown to be without foundation. For example, at the present time most artists are afraid to allow the children to begin to paint the landscape as they observe it for fear they may be content always to slavishly copy what is placed before them. They fear that the mind by

this kind of training will lose all power to act unless it is being continually prodded by objects of sense. Another analogy is found in the now-all-but-discarded way of teaching reading and writing. We formerly taught letters first, then words; then unrelated sentences, on the theory that a child should acquire a vocabulary of a certain amount before actually beginning to read. So, by the old copy-book system, the child first made the elements of the letters, then the letters in almost endless repetition, then the words, and finally sentences before he was supposed to be able to use written expression for any educative purpose. But now this is all changed. From the beginning the child reads what is interesting because it reveals something that he wishes to tell and preserve as a record. But in mathematics this common-sense principle has not been systematically applied. Whereas, under the old system of teaching and writing, students did get somewhat beyond the process stage, in mathematics very few pupils ever get beyond that stage or even master it in algebra and geometry.

It must be remembered, of course, that every mode of expression as a process has its philosophy which is well worthy of study. That is, there are reasons for each step, and certain rules and laws that govern the process. It is manifest, too, that something concerning these should be taught as the work grows and as the necessities of image growth demand. That is to say, in algebraic subtraction, for example, the reason for the rule directing that the signs in the subtrahend be conceived as changed should be considered as far as the comprehension of the pupils will allow. But the development of the entire theory of the process should be reserved for a later and more mature stage, since it is a subject for philosophy rather than for mathematics.

The evils arising from the perverted methods of teaching mathematics are manifold. In the first place, the pupils are not rendered mathematically intelligent, and as a consequence they are deprived of one of the most useful and interesting aids in their thinking. The majority of the students who leave the high schools as graduates are neither rapid nor accurate in their ordinary calculations in the fundamental operations, while

the large majority, probably, would be found to be utterly untrustworthy in calculations where the decimal point is involved. Secondly, the so-called training that pupils receive in mathematics in the majority of cases effectually atrophies the mathematical sense or instinct. The pupils, long accustomed to omit in the development of their images all consideration of quantitative relations, finally reach such a benumbed mental state that these relations no longer make any appeal to them, and thus exhaustless stores of knowledge remain forever sealed. They become mathematically color-blind. And lastly, mathematics itself is unable to calculate the pernicious effect of such teaching from the viewpoint of morals. Suppose that from the time a pupil began to learn words, reading matter were placed before him whose pages were covered with words that furnished no stimulus to image growth! What would be the probable effect upon his literary taste? Or, suppose all thru his school course he were compelled to write letters that mean nothing more to him than hieroglyphics; what possible relation could such training have to the development of the real function of writing as a means of expression? Yet these suppositions are not far from the reality of what is done in mathematics. From childhood he drags his way thru thousands of exercises that mean practically nothing to him. By cajoling or compulsion he goes thru operations neither expecting results nor caring for them. It is a training, pure and simple, in blind submissiveness; it is a schooling in subserviency that tends to undermine character. For long years to systematically train the pupil thus to work without a purpose and to accept without question results that are incomprehensible or meaningless is to touch the heights and depths of immorality in teaching.

It would be unfair to assume that nothing has been attempted in the right direction for the improvement of mathematical teaching. There is, in fact, a fairly general consensus of opinion that beginners should use objects in connection with their number work. But there has been little advance for two reasons already mentioned. (1) the objects used are of such a character that the study of them gives no actual thought-con-

tent of any value; and, (2) because, under a mistaken idea as to the nature of abstract reasoning the pupil is soon deprived of the use of objects and is left thereafter to deal chiefly with empty formulæ. The instruction, then, if such it may be called, resolves itself into an unphilosophical attempt at memory drill. There is urgent demand now that a long step in advance of this position should be taken. The past decade has wrought out almost a revolution in the general character of school work as found in the best schools. There is now the most earnest regard for the natural and spontaneous activities of the pupils. The value of the thought content measured by its bearing upon the needs of the growing being is the thing that is considered of first importance. This has brought a wealth of subject-matter into the schools that is almost bewildering; or rather, it has abolished the old-time school with its barrenness of resource, and it has placed the pupil in direct contact with all the vital activities of his time. To this fact is due the sudden demand for all forms of art work that furnish the learners with his means of expression. It is inevitable that the pupils being thus called upon to consider quantitative relations should feel the necessity for mathematics and that the lack of provision for the aid which it alone can furnish should seriously handicap them in their progress. The new mathematics, therefore, must take the changed conditions into account. To-day as it enters the school it will find the pupils at work; it will find them thinking thru their hands in earnest endeavor to become active participants in the world's work each according to his ability. The whole universe of subject matter is laid under contribution and the pupil is encouraged to draw from it at will. It is currently believed that in this search after truth mathematics can play but a limited part. Yet if it be true that the universe and all it contains is a manifestation of energy, it must follow that mathematics in some aspect will have a place in the development of every subject. In the study of science it is at present most closely identified with the study of physics; but the need of it is already being recognized in the study of many other branches. In biology it finds an important place. An eminent biologist says that, in making a biological survey of our fresh-

water lakes and rivers, it is no longer considered sufficient to find that such and such living forms inhabit the waters at a given time; but by actually counting the individuals of different kinds that may be found in a quantity of water at a given season, the life-supporting power of the water at that time may be determined. And, still further, as these calculations are made with the passage of the months and seasons the life supporting power at different periods of the year may be determined and compared. Thus quantitative results in mathematical form are being demanded in the development of many subjects.

I have said that geometry is the science of the *function of form.* One need but look out of the window to see evidences on every hand of the importance of this subject in daily affairs. All construction in the interests of safety and economy demands the greatest mathematical nicety in the determination of the relation of function to form. The old geometric figures of the books are to be found to-day at work in every kind of construction. Here is the basis and the subject-matter for the new geometry. The demonstration of its theorems will be simply explanations how and why buildings and all other structures stand, and how and why machines do their work.

Even in physics, to which mathematics has been already a faithful ally, there must be a broader presentation than that now commonly found in secondary schools. A pupil may acquire some notion of the mechanics of a lever and the pulley thru proper use of a foot-rule and the ordinary laboratory outfit of pulleys. But in no case will there be so strong an appeal to the sense and imagination of the pupil as to their great function as there will be when he actually sees them as means in the accomplishment of the world's work. The lever and pulley will but lightly impress the pupil when they are employed to lift trifling weights which could be easily done without them. And, consequently, the random problems that now invariably follow the text are of the usual dry and uninteresting sort found in the stock arithmetic. In the average book on physics the number of problems far outruns any necessity

suggested by the text or by the teacher, and the study becomes degraded to a useless and monotonous drill.

Everything should be studied from the standpoint of its work—of what it can do. Botany is the study of the plant at work. Zoology is a study of the animal at work. Human history is the study of man as he has worked and as he is working at the present time. In this scheme of study mathematics has just two functions, (1) to measure the amount of work that is done, and (2) to investigate the means by which work is done or to determine the most economical measures by which it may be done. The geometry of a tree investigates the forces that act upon it and it explains the form the tree has assumed in its reaction against these forces. The arithmetic of the tree expresses in numerical terms two things, (1) the value or amount of force displayed in its growing and (2) the quantity of tree-stuff it is able under these circumstances to manufacture. But the geometry and arithmetic of the tree imply the geometry and arithmetic of the sunshine—the one leading the student possibly from an elementary investigation of its slant out into the boundless domain of celestial mechanics; the other perhaps from a simple numerical statement of temperature to the inconceivable figures that foot up its total work power on the globe. It is thus that the study of science must ever wait upon the services of mathematics.

It is obvious that the demand which the proper study of subject-matter makes for mathematics will inevitably work some radical changes from the usual methods of presenting the mathematical branches. Just as it is now considered proper to learn the various fundamental operations simultaneously because they are used to some extent interchangeably, so the subjects of arithmetic, geometry, and algebra must go practically hand in hand. The old linear or tandem arrangement of these subjects must be in large measure abandoned. The long-continued discussion as to when arithmetic, algebra, and geometry shall be introduced into school life has settled nothing. From the nature of the case it must ever be a fruitless controversy. Not even the edict of educational committees can dispose of it for the reason it is not a legislative matter.

The child solves the question for himself by introducing them all at once even before he enters school. He introduces them of his own accord because they are all a natural and organic part of his machinery of thinking. If the school actually did what its course of study usually claims to do, namely, to keep the study of geometry and algebra from the pupil until he is at or near the high-school age, the child during those early years would not be an educable being; he would be reduced to imbecility.

There is no finer exhibition of the inherent power of the human mind to develop than that in which it shows its ability to resist the outrages which an ordinary school thrusts upon it. With one of the most vital parts of his thinking machinery left almost utterly unheeded, the pupil does actually manage to get thru the schools; but no thinking person will claim that he represents a maximum development. The real question, therefore, is not, Shall we or shall we not introduce this or that branch of mathematics? but it is, Shall we or shall we not decide to assist the pupil in the further development of the mathematical powers which he began to employ spontaneously before he came to school at all? To this question there certainly should be but one answer.

Another important change in the teaching of mathematics relates to the degree of accuracy demanded in the results. Mathematics is an exact science; but it can be such only as it assists the pupil in the definition of a real image. The question as to whether the pupil shall use whole numbers or fractions will depend upon their use to him in picturing what he wishes to know. Teachers usually have some conscience about giving words to their pupils that convey no meaning; but the same teachers may be utterly conscienceless in requiring their pupils to carry out a decimal to a length that places it utterly beyond their comprehension. The same rule holds here that applies elsewhere; if, for example, the pupil can see the part that one-tenth or one-hundredth of a pint plays in his image, then the symbol may be used with intelligence; otherwise it is meaningless and should be avoided. This furnishes a clew to the proper principle for grading: instead of placing arithmetic

in one year, algebra in the next, and geometry in a third, the pupils should have the constant use of all these, each supplementing the others, and the grading should correspond with his increasing ability to image with exactness. In the earlier years larger quantities should be dealt with and less attention should be given to small fractional parts. This is because, first, the pupil has less skill in using the means of measurement; second, he necessarily must use larger units of measurements, and, third, because small fractional parts make no difference that he can appreciate in the final result. This plan of grading recognizes the possibilities of perpetual growth. By this method the student need not change the plan to the end of his days; he simply goes from one approximation to another of narrower range until step by step he reaches the limit of the human mind to image and the limit of the human hand to manipulate. In all of this his figures simply keep pace with his thinking.

As an illustration of the principles and methods that are here advocated an outline is offered of some work that was done in the eighth grade of the University Elementary School during the past year. The subject of botany is selected because in the study of plants it is commonly thought that no number work is needed. The pupils were allowed to take their time to work the problems out as their observations demanded. The mere reading of the facts brought out will give but little idea, to be sure, of the interest which the pupils felt as the picture gradually developed thru their calculations. In doing the work the following principles were observed in the interests of intelligibility and with a view to economizing effort.

1. There must be a clear general notion of the image to be developed.

2. There must be a careful selection of appropriate units of measurement. The units chosen should be such as will involve the pupils least in the details of process, and which, at the same time, will best approximately define the image.

3. The most expeditious methods of measurement, or of applying the units, must be adopted. Estimate first; then measure. Neglect the fractions that are inessential to that

general approximation which is within reach of the pupil's ability to image.

4. There must be careful selection of processes by which the comparisons are made. This will be determined by the pupil's ability to picture the different standards of comparison. The earliest processes will be simple addition and subtraction, multiplication and division; then the use of fractions; later, ratio; then percentage.

5. The results in the form of data obtained by observation must be represented objectively. Gallons, quarts, pints, feet, yards, square feet, square yards, acres, miles, etc., must be seen until they become a part of the mental equipment, just as, for example, an idea of the color green is always at hand and ready for use. Proportions should be represented by diagrams and models.

6. Using the results obtained as data, a great nature picture must be constructed; that is, thru the original and primary conception under which the pupil has been working, the real magnitude of world operations should be made to appear in definite quantitative results.

I. *The dispersal of seeds*—An attempt is made to form some idea of the rate at which plants might multiply, as indicated by the seed production.

1. Near the schoolhouse a vacant city block rather thickly covered with wild verbenas was selected for study.

2. By measurement and calculation this area was found to contain approximately one-fourth of an acre.

3. Areas of one square yard each were measured in various places, and the average number of plants was calculated.

4. An average of thirty plants per square yard gave approximately 36,000 to the quarter acre.

5. Each seed pod contained four seeds, one of which, on the average, it was found, failed to mature. The number of pods on a spike was counted, which when multiplied by the number of spikes, gave 2300 seeds as the average number produced by each plant. Since only three-fourths of the total number matured, each plant furnished, therefore, approximately 1700 good seeds available for growth.

6. If these good seeds were properly distributed, and if each were to produce a plant, the one-fourth of an acre the second season could populate 425 acres—approximately two-thirds of a square mile, *i. e.,* equal to an area bounded by Cottage Grove Avenue and State Street on the east and west, and Sixty-third and Fifty-fifth streets on the north and south.

The third season, under the same suppositions, enough seeds would be furnished to populate 1122 square miles, *i. e.,* more than six times the area of Chicago.

The fourth season, under the same suppositions, the area populated would be 1,907,400 square miles, *i. e.,* equal to about thirty-four times the area of Illinois.

The fifth year the number of seeds would be sufficient to furnish plants as thickly as those found on the quarter of an acre equal to sixteen times that of the entire earth.

II. *Seasonal conditions: were they favorable or unfavorable?*—1. *Rainfall:* One inch of rainfall furnishes 540 barrels of water per acre, or 135 barrels for the quarter acre. During the months of May, June, July, August, and September, when the verbenas grew, the rainfall due the plants, according to the thirty-years' average given by the Weather Bureau, is 16.1 inches, or 2229 barrels. The actual rainfall for three months in 1901 was 13.9 inches, or 1874 barrels. There was, therefore, a shortage of 2.6 inches, or 355 barrels. That is, from this cause alone the vitality of the plants was reduced by about 16 per cent. This may be viewed in different ways: (*a*) that only about eight plants out of ten would grow this season; or (*b*) that eight seeds out of ten would mature; or (*c*) that the general vitality was lowered, which would be felt the following season.

2. *Sunshine:* The Weather Bureau records for the past eight years show that this region has received 65 per cent. of the sunshine possible during the months under consideration. In the year 1901 this area received 68 per cent. of the possible sunshine. It follows, therefore, that, since plants are most active in sunshine, there was an overstimulation of 3 per cent. above the normal. Since, also, during sunshine plants are most active in the transpiration of water, and since there was

a shortage in the supply of 16 per cent., it follows that the combination of these two causes operated to intensify the strain upon the plant. The plant endeavors to resist this strain by reducing the leaf surface exposed to the sunshine.

3. *Temperature:* The average temperature for the five months for thirty-one years is 66 degrees. For the year 1901 the average temperature for the same months is 68 degrees. There was actually, however, an excess of 6 degrees during this time, as shown by the Weather Bureau record. This condition meant, also, not only a possible increase of plant activity; it meant more than the normal evaporation from the soil which would tend to cut off the water supply from the plant.

4. *Variation in intensity of sunshine:* On the 21st of each month the *distribution* of a given beam of sunshine at noon is proportional to the following areas: May, 108; June, 105; August, 115. These results are obtained approximately by the use of the skiameter. The *intensity* of the sunshine varies inversely with the areas of distribution. In the month of June, when the intensity of sunshine is greatest, the average cloudiness is 32 per cent.; in 1901 the average cloudiness was 31 per cent. Therefore, the withdrawal of the friendly cloud shelter by the amount of 1 per cent. in the month when the intensity was greatest served still further to increase the stress laid upon the plant in the year 1901.

These causes all happened to combine directly in this particular year to menace the future of the verbena. They also operated indirectly, so far as they favor other plants that know how to get along with the reduced amount of moisture and the increased amount of sunshine and heat.

The botany of the verbena, therefore, becomes chiefly a study of the various devices of leaf, stem, and root by which this plant is able to maintain itself against all these unfavorable influences, which the work in number shows to be actual and definite forces of enormous power.

In applying the principles of correlation it should be remembered that it is idle and fatuous to seek to derive the subject-matter of one study from the subject-matter of another. The attempt which has been made to base the subject matter of

nature-study upon that of history and literature is an illustration in point. In such a scheme, it is inevitable that one subject must be primary and the other secondary. Whereas, in fact, both are primary in that they are both directly related to the life of the pupil. The subjects are related to each other thru the life of the learner and only because he makes use of each and of both in the course of his mental growth. The first plan of correlation is limited and made rigid by the fact that it rests upon certain points of supposed correspondence that may be found and these may vary in the minds of different teachers. The second requires that the pupil's needs, only, be regarded in the choice of mental nutriment, and specific coincidences in subject matter are of secondary importance. The latter form of correlation is fundamental in its character, and it must, finally, profoundly affect the organization of our system of instruction.

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V

THE RELATION OF PHILOSOPHY TO GRADUATE STUDIES[1]

The philosophical disciplines have been assigned by general consent a prominent position among the humanities, and in any system of liberal culture such as our undergraduate curriculums they must be regarded as essential elements. The relation, however, of philosophy to graduate study is of a different nature, and more difficult to define. The aim of the graduate student who is seeking one of the higher degrees is no longer that of general culture. His work is not to be considered in the light of a disciplinary exercise—a kind of mental gymnastic. The time of training and preparation has passed. The days of academic tutelage are over. His endeavor at this stage of his career is to bring the already trained powers into action, to concentrate them upon some definite area of investigation with the serious purpose to know the truth and to see things as they are. His sole aspiration is to acquire scholarly methods and to do his work, whatever it may be, in the spirit of a scholar.

It will be well, therefore, at the outset to emphasize the essential characteristic of a scholar, namely, the love of knowledge for knowledge's sake. I do not deny, or would I in the slightest degree attempt to minimize the instrumental value of knowledge. It was a man of the shrewdest worldly wisdom, as well as a philosopher, who observed, "Knowledge is power." The utility of knowledge, especially in this age, is unquestionable. The more complete your equipment as a teacher, the more important will be the position which you will eventually secure. The more thoro your law or medical preparation, the more efficiently will you be able to prosecute the work of your profession. The deeper you lay the founda-

[1] A paper read before the Graduate Club of Princeton University.

tions of style and of criticism, the greater will be the art and facility of expression and the more significant will be your literary output. Your electrical training, your proficiency in chemistry, your skill in mechanical engineering, all this will be in peculiar demand in the days of strenuous competition, when the success or the failure of great corporations may turn upon the ability of scientific experts who are recognized masters in their specialty. Such a knowledge seems subject to a law which we may style a modification of the principle of the conservation of energy, namely, a given amount of knowledge may be transformed into a definite amount of profit, or of power, or of position, just as energy which is stored in coal may be transformed into light or heat.

But this kind of knowledge is not the stuff out of which pure scholarship is made. The knowledge that deserves the characterization of scholarly admits of no conservation in terms of practical units of value. The scholar is one who loves knowledge for its own sake. Now, in so far as he is actuated by this spirit in the pursuit of his investigations, the scholar is so far forth a philosopher. The old Greek mathematician and philosopher, Pythagoras, once said with the becoming humility of a scholar, "I will not call myself sophos, the wise one, but merely philosophos, a lover of wisdom." And in the same vein Plato defines the philosopher as "one who is a lover of the vision of truth." From this it will be seen that the spirit of the scholar and the spirit of the philosopher are one and the same. Between the physicist and the metaphysicist there is at least this one point of affinity, if so be that each is a lover of wisdom for its own sake.

Such being the spirit of the scholar, let us now inquire more particularly as to the essential features of scholarship itself. What is the task which every scholar must set himself? It seems to me that it is twofold—the accumulation of all available material within the range of his specialty on the one hand, and, on the other, the interpretation of its essential significance. This process of interpreting the results of research is one which consists in reducing the raw material, the crude ore of research, into some systematic and orderly form.

As we take cognizance of separate phenomena in experience, they appear as unrelated and contingent. They have for us a significance in the first instance entirely dependent upon the particular circumstances which may accompany them. We feel the bondage of the special case. It is the task of the scholar to regard each phenomenon in the light of its significance as a particular instance of some universal. The reference of the concrete case to its appropriate universal, or, if you please, to the constructive law of its being and activity, at once recognizes it as an essential element in a system whose harmony and interaction of parts are the result of the necessary and universal relations which they sustain one to another and each to the whole. The scholarly mind, therefore, is one that is able to sweep a bewildering mass of details into one comprehensive concept, and to unify dissimilar and often seemingly contradictory elements, regarding them as coordinate factors working together toward a common end; in a word, the chaos of conflicting phenomena is transmuted by the organizing processes of thought into the unity of an intelligible cosmos.

The work of the scholar is thus essentially constructive. He is to build the materials resulting from research into a system. He is to rise from the investigation of special cases to the region of hypothesis and law. He is essentially an interpreter, and not merely a collector of facts. To whatever extent his analysis may lead him, and with whatever experimental skill and resource it may be conducted, still he will remain deficient in the essentials of scholarship if he attempts no kind of synthesis, and is unable, therefore, to appreciate the significance of the results which the test tube, the telescope, the manuscript, the incidents of an historical period, or tables of statistics may have revealed.

This aspect of the scholarly ideal which has been indicated, and which should be especially emphasized, is in exact accord with that type of mind which is properly characterized as philosophical. For the problem of philosophy in its most comprehensive form may be stated as the attempt to rise from particular instances to the unusual concepts of which they are

the special cases. This is the Socratic contention as against the sophists. The latter represented in their teachings a vast body of shifting opinion, inaccurate and unscientific in the extreme. Socrates insisted that it was the duty of the philosopher, the true lover of wisdom, to discover the universal and necessary in the midst of this mass of conflicting opinion and varying circumstance. It is to his everlasting honor that the Socratic definition of philosophy gave to the world its first conception of what is meant by scientific thought, and it is the conception which obtains to this day, and is as follows:

"Philosophical in distinction from unphilosophical thought (or that which is equivalent, scientific in distinction from unscientific thought) is that which is able to penetrate beneath the surface appearance of phenomena, and discover there that understood ends of things or partial and incomplete experiences remain over in her mind. But she adds to this the desire to complete them; for example, to act herself in the way she has observed the teacher acting. For this purpose other children are from some standpoints better than buttons, but more incalculable and not always so easily obtained. Whatever the means employed, the child desires to put herself in a set of similar outside circumstances, mainly for the purpose of getting the same inside experience.

Another case will illustrate this more fully. A child of nine observed by the present writer was found by her mother going up the back stairs by herself in the dark, backwards, with her knees bandaged, and uttering a groan with every step. She was so wrapped in her occupation that her mother closed the door without distracting her, and could hear her continuing up to the top of the stairs. It should be said here that her aunt had been suffering from an attack of rheumatism and had been in the habit of going upstairs this way. It was evident that she was not making game of her aunt, or showing off. Was it, then, simply a case of imitation? Partly, but not wholly. When asked the next day why she was going upstairs that way, she hesitated shamefacedly, but finally said: "I just wanted to see what it would be like."

She had in reality designed an experiment, or asked a question of nature, in order to enlarge her experience.

The feeling and knowledge of causing the events which is the central part of any plan is sometimes prevented and sometimes increased by association with others. Suppose a child sitting on a bed balancing himself. He leans over a certain distance, and after a number of trials learns how far he may go without tumbling. If now the mother gives him a little push, and thus becomes a cause herself, instead of interfering, this actually gives the child the opportunity of greater causal activity, a condition which, if he has energy to spare, he appreciates and enjoys.

In this case it is to be observed that the mother has not made a plan for the child's life in which he had to fit, but has observed the life and intention of the child and has thus succeeded in making him more effective than he would otherwise have been.

Plans, however, may be made for others and without their consent, and yet be distinctly good for them. We may, for example, make a cradle for a child long before he would be capable of appreciating such a thing for himself. We may insist upon his learning the catechism in the same way. Plans made for others rather than with them may be, it must be admitted, fairly well adapted, especially to the lower order of the nature and needs of the persons concerned. Mommsen tells us that the professional classes in Rome were generally held as slaves. The choosing of their walk in life thus depended on the closest analysis and adaptation on the part of their owners. It was only the supreme planning of their life which was withheld from them. Below this, they were allowed to conduct themselves with a considerable degree of freedom. Such plans, indeed, necessarily raised the cry for better adaptation. In as far, however, as plans made for others inhibit instead of increasing the opportunity on their part of forming plans for themselves, they are destructive to the highest interests of life. Such plans are necessarily egoistic or aristocratic in character—the life which is to be lived is outlined by another.

Such egoism is to be distinguished from normal individualism in the fact that it does not lead to the best growth of either those who make the plans or those who fit into them. Neither master morality nor slave morality is adequate to the fullest life. One weakness of the person who makes the plan appears in his empty idealism. We may appreciate this best in the most intimate relationships of life. Love, as Meredith says, is the fiercest trial of egotism. Suppose a man who possesses a conception of an ideal woman. This conception is a plan he has made for the life of another. The woman that he thinks he loves, must fit into it and become part of it, in order to be loved. It may be said that he loves Love better than his lover; but this is after all his own idea, a part of himself. That is what he really loves. In proportion as he refuses to enlarge this he becomes auto-erotic, and cannot grow. It is the law of life that if we would develop we must love others, even if they do not fit into our most glorious plans. The philosophy of Jesus strikes the heart of this matter in the phrase, "If ye love not me whom ye have seen, how can ye love the Father whom ye have not seen." It is the whole concrete present and actual, however seemingly imperfect, that needs to be lived and ought to be able to be loved.

As for the persons planned for, it is needless to show that they also suffer from an empty idealism and a narrower range of individualism. To them belong the various degrees of the transferred egoism of the parasite. At present, emerging as we are from a period of clan life, it is natural that masses of people should show the narrowly selfish and primitive instincts of slaves. The reaction of Nietschze, altho one-sided, is perhaps well timed as well as beneficial.

Is it, then, the duty of altruism simply to sacrifice our own plans to the plans of others? But this itself would be really unaltruistic, since it would, if for no other reason, take away from others the opportunity of growth which the most intense and fearless expression of ourselves alone can give.

Moreover, self-abnegation, for its own sake, is simply a form of self-glorification. If one does a service just because

it is in accordance with his mere conception of duty or idea of his own rectitude, and not caring to do so because of the interest and love he has for another, he is really loving himself the best. On the other hand, if the satisfaction of personal joy and pleasure should not arise in the person rendering the service, it cannot be so much of a satisfaction to the person benefited, and may sometimes be rejected altogether. As Aristotle says, the good man always retains the best part of any sacrifice—he keeps the active deed of which the other receives the passive benefit, altho in strictness we ought perhaps to say that both these portions are equal.

The only help for the egoism of either side is in the mutuality of plans. This avoids mere antinomies of personalties, because it sets up something to be done in which, not simply the present and actual is contained, but the future life of each as he sees it after the purifying criticism and re-enforcement of his fellows. In other words, it emphasizes the possibilities of growth. The work which is no single person's work, but in which all have a share, not equal, but proportionate to his ability and power to execute, is larger than any one individual, but raises each to its level. A mutual plan is really a future society into which each individual sees himself ideally thought, which rises above particular phenomena to the laws of which they are the special cases, is essentially a philosophical mode of viewing things, and yet is by no means confined solely to the pursuit of philosophy. It is quite as characteristic of the methods and aims which should prevail in all of the sciences. Therefore, in the examination of the development of philosophical thought, we are unconsciously acquiring a general point of view that will prove of inestimable value when we come to handle the material which constitutes the data of our specialty.

In addition to the general advantage which may thus result from a mastery of the history of philosophy, there is another and a more special benefit which may be gained. It is this: In following the devious windings of the historical development of philosophical thought, thru its progressive and its retrograde movements, as seen both in the surface flow and the deeper cur-

rents beneath, it cannot fail to escape the notice of the observer that the history of philosophy and the history of the sciences may be traced to the same source, and that their courses have not only been often parallel, but in many cases have been merged in one. This is especially true of the history of the physical sciences. The records of history have been crystallized in language to the extent that the phrase, natural philosophy, came to be regarded as identical in meaning with the word physics. The early Greek philosophers were at the same time physicists. The philosophy of the world structure, the science of cosmology, was a most alluring subject to all of the Greek masters of philosophical thought—Heraclitus, Democritus, Pythagoras, Plato, and Aristotle. The atomists, in their philosophy of matter, applied metaphysical concepts to the science of physics itself. It was early discovered that without concepts which are essentially philosophical, such as the idea of matter, force, energy, and the like, there could be no adequate interpretation of physical phenomena. Physical science has always found it necessary to avail itself of such philosophical concepts as these,—that is, ideas which must be postulated, and which are not evident to the senses,—in order to interpret the data of the senses.

Plato's doctrine of "ideas" and Aristotle's doctrine of "forms" may be regarded as merely the Greek manner of expressing the concept of law which is so prominent in the modern physics. For the "idea," or the "form" holds the same relation to the special case as the concept of law holds to the particular phenomenon. And it may be remarked in passing that there has been no one who has so completely illustrated the modern scientific spirit as Aristotle.

In the revival of learning which ushered in the modern era and the age of marvelous scientific attainment, we find a group of men such as Campanella, Telesius, Nicolaus Cusanus, Leonardo da Vinci, Roger Bacon, Galileo, Francis Bacon, Newton, Kepler, all of whom we might with equal propriety regard either as philosophers or as physicists. Francis Bacon, in his contribution to science thru the insistence upon the value of the inductive method in research, must be regarded

pre-eminently as a philosopher, and yet as a philosopher he subserved the best interests of science. And it was in the name of philosophy that he exclaimed to men of science—"Back to the facts, to the phenomena themselves! There is the beginning of wisdom!"

The intimate relation between philosophy proper and the so-called natural philosophy cannot be better illustrated than in the life and work of such a man as Galileo. His philosophical point of view led him in his speculations to the formulation of the relation which obtains between quantitative and qualitative determination. This involved the application of a rigorous mathematic to physical phenomena, and laid the foundations for the science of mathematical physics. The generalizations of Galileo in this connection have furnished the key to unlock the great storehouses of scientific truth from his day to the present. Galileo, however, only stated in more precise and adequate terms the truth which Pythagoras, centuries before, had dimly prefigured in the mystic symbolism of his world system of numbers.

There is doubtless no concept having deeper significance as a methodological instrument than that of evolution. We are all agreed that every specialty must be treated from the standpoint of its development. The historic method has become a fundamental principle of research, and a universal light in all investigation. But the doctrine of evolution has not come to us full-fledged, nor was its birth in a single day, for the concept of evolution has had its history, its own evolution, and as we trace the lines of its development, we find its roots deep in philosophical soil. Aristotle had understood its meaning and had appreciated its significance, and that not in a crude way, but somewhat in the spirit of its modern formulation. In the nineteenth century Schelling and Hegel, in a speculative way, had outlined the doctrine which Darwin, Wallace, and others reached thru empirical methods. And here, too, it must not be overlooked that in the use of hypothesis and in the formulation of his sweeping generalizations, Darwin revealed as profound a philosophical insight, and pursued as rigorously philosophical a method, as Aristotle

himself. That which has been illustrated in the sphere of physical science, which seems in a way the farthest removed from philosophical considerations, may also be shown to obtain in other lines of special investigation. Not to multiply instances, I would refer briefly to the field of historical research, where indeed an appreciation of the philosophy of history implies an intelligent grasp of the history of philosophy. The movement of great events cannot be understood unless there be a profound study of the cognate and intimately associated movement of great thoughts. And if we should traverse in a similar way all of the sciences, we would discover that a philosophic habit of thought is necessary to realize the fullness of attainment in any sphere of special investigation. This does not mean, however, that the data of knowledge are to be prejudged by the speculative formulæ of philosophy, or that facts are to be wrested so that they may be forced to conform to some preconceived theory. It means simply that the facts must be so thoroly and essentially grasped that they will of themselves reveal the universal principle which they illustrate. Otherwise facts must remain mere facts, uninterpreted, without value in themselves, and without significance. Philosophy does not explain phenomena, but the explanation of phenomena is their philosophy. Whatever, therefore, your specialty may be, and however limited the area of your investigations, you must not overlook the fact that in what is most limited there may be a revelation of that which eludes all limitation, and that in every particular there lies concealed some universal, if only there be the full light of reason to illumine and to guide.

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VI

CONFLICTING IDEALS IN THE TEACHING OF ENGLISH[1]

It requires but slight investigation in educational matters to discover that there is great difference of opinion on many questions of fundamental importance. With a view to determine in some measure how widely teachers of English composition are at variance in their theory and practice, two expressions of opinion, apparently as divergent as they could well be, were sent out by the Pedagogical Section in a recent circular of inquiry. The two quotations, with the appended questions, are as follows:

"English composition is already taught in the schools, but it connotes the art of writing clearly and correctly about ordinary matters and with such limitations as you expect in a good business letter; whereas, this book (Cornford's *English Composition*) is a manual of the art of writing as Stevenson understood it. Inspired by Continental practice, particularly the French, Mr. Cornford sets out to teach schoolboys to think literary thoughts and write them down with literary force and grace; . . . is it well to teach the literary art to English schoolboys? We do not think it is well; . . . it is alien to the genius of the nation."

—*London Academy,* 24 Nov., 1900, p. 496.

"I have always regarded rhetoric as dealing, in all its parts and stages, with real literature in the making, and composition, however humble its tasks, as veritable authorship. . . . To put the student frankly on the basis of authorship, . . . is to impart immensely greater reality to his study of rhetoric."

Professor J. F. Genung.

[1] An abridgement of the Report of the Pedagogical Section of the Modern Language Association of America, read at Johns Hopkins University, December 30, 1902. The officers of the Pedagogical Section are F. N. Scott, President, and W. E. Mead, Secretary.

Two distinct ideals of teaching composition seem to be suggested in the preceding extracts: (*a*) the art of writing clearly and correctly about ordinary matters; (*b*) the production of literature.

1. Which of these lights do you think the teacher of composition should chiefly follow?

2. Should there be any difference in the ideals of the teacher of composition (1) in the elementary school, (2) in the secondary school, (3) in the college? (In the college would you distinguish between (a) beginning classes, (b) advanced classes?)

3. In your opinion is it in any sense "alien to the genius" of this nation to teach schoolboys (as a class—the rank and file) to "think literary thoughts and write them down with literary force and grace," or to lead them to suppose that in their themes they are undertaking "veritable authorship"?

At the outset it should be emphasized that the Pedagogical Section as such has advocated neither side of the main question, and has not ventured to indicate whether there is necessarily any conflict in ideals or methods. In a purely objective way the attempt has been made to learn what are the actual opinions current on the fundamental questions of aim and method. We may regret as much as we please that other people do not think as we do; so much the worse for them. But surely the first step toward conversion is to discover how much we hold in common and how widely at certain points our opinions diverge.

The views about to be presented are taken from a mass of material that has poured in from a variety of sources, from college and secondary school teachers of English, from educational psychologists, from editors, and from professional men of letters. All, or nearly all, the great universities are represented, as well as many smaller institutions from Massachusetts to California. As was to be expected, there is considerable diversity of opinion, tho some of the diversity is largely verbal. At all events, the investigation, imperfect and tentative as it is, seems to prove the desirability of coming to something like

agreement on this fundamental part of our educational system. Until we do, we shall leave the problem chiefly to the publishers of educational novelties, or to the blundering ineptitude of teachers who drift along without aims or methods, and who, as in one case I recall, may be set to teaching English composition because they will probably do less harm there than elsewhere.

But I must not longer delay the presentation of the material which constitutes the real value of this report. In analyzing the opinions as to which of the two ideals the teacher of composition should chiefly follow, I find that they can be divided into three tolerably well defined groups, the first two decidedly favoring one view or the other, and the third aiming at a harmony of the two views expressed in the quotations.

I first turn to those who practically agree with the writer in the *Academy*. The reasons given are not in every case identical, but they emphasize in general the fundamental necessity of clear thinking and habits of accurate expression as "the absolutely essential preparation" for success in literary efforts. I need cite but two or three typical opinions.

"My experience," says one, "has taught me that students are in the end best prepared to produce literature when their preliminary writing has been upon ordinary matters with the purpose of teaching clearness and correctness."

Of the same tenor are the two following: "The boy is not to make literature in his theme, but his theme is to be judged by literary canons. Only one ideal can appear, therefore, and 'clearness and correctness' is a rung in the ladder to it."

"The majority of schoolboys are quite incapable of understanding literary ideas. Professor Genung's view may be well enough for exceptionally gifted students, not for the majority. The desideratum is the ability to write plain, straightforward English. Furthermore, I see no need of making composition, which, after all, is, for most people, a matter of plain common sense, the rather repellant but often fascinating thing which the terms 'real literature' and 'veritable authorship' imply."

A college teacher of long experience writes: "My conclusion is so decided that I am tempted to be impatient with anybody on the other side. All that the school and the college can require or seriously attempt is 'writing clearly and correctly about ordinary matters.' We may be devoutly thankful if we succeed in getting that much. To attempt more is to me hallucination."

These positions are unmistakable. The advocates of a training which aims from the outset at "real literature in the making," are for the most part less emphatic, tho some would lay the principal stress on that side, and, if they had to make a choice, would prefer to take their chances in attempts at producing real literature. But most of those whose leanings are towards an essentially literary training recognize the importance of the formal drill, if one is to be saved from slovenly habits of expression and from the flabbiness of languid æstheticism. In actual practice "an intelligent teacher will be governed somewhat by the nature and ability of his students." The majority, therefore, of those who advocate in a measure the development of the beginner into a real author frankly recognize the importance of both sides of the work.

Here as elsewhere I can present only typical opinions:

(*a*) "There is not so much difference between these 'ideals' as might appear from the rather unfortunate terms in which they are stated. If I am to agree with either, I agree with Genung; for I certainly would not restrict the student to such subject and manner as would be appropriate to a *business* letter. But then, on the other hand, 'ordinary matters' are the stuff out of which the best literature is made, tho it never can be made by rhetorical rules. When Stevenson wrote letters on 'ordinary matters' he made literature out of them every time; if the boy is a Stevenson he will make literature. If he isn't you can't teach him to make literature by 'putting him on the basis of authorship'—whatever that may mean. Teach the boy to express his own thoughts as best he can; never mind the literature."

(*b*) "To teach the art of literary expression, as a thing to be acquired apart from general culture and to be practiced apart

from the writer's genuine personality, appears to me a vicious proceeding. Instead of a race of sincere and virile thinkers, this method tends to produce a class of superficial stylists, with whom a few rhetorical tricks count for more than solidity of thought."

(*c*) "The only thing the teacher of composition can do—that is, the only thing susceptible of being imparted by teaching—is what may be called the mechanics of literature, what is included for the most part in writing clearly, correctly, and perhaps strongly. Beyond these qualities the pupil must work out his own salvation, according to the mind he has."

The next extract is especially important as representing the aim and practice of the entire department of English composition at Harvard:

(*d*) "It is our practice in the composition classes at Harvard College to help the great body of students, so far as we can, in saying simply and directly what they have to say; thus a large part of our work lies in showing young men how to remove obstacles to the effective expression of their thought. It is our further practice to encourage, so far as we can, any sign of literary power, and to encourage it without tempting its possessor to feel past learning anything.

"From what I have written, you will see that we try to adapt our teaching to individual needs. Sometimes we succeed, and sometimes we fail; but we believe in the effort. Incidentally, every teacher here, so far as I know, connects English composition with English literature wherever he can. I do not mean that he constantly asks students to write about books; I mean that he uses books as illustrations, not merely of bad qualities, but of good ones, and that he works hard to help students toward an appreciation of what is best."

(*e*) "It is absurd to set up as a goal of attainment, in school or college, the production of a copy. Yet this perversity is perhaps inevitable, the market for copy is so active. Draining one's wits for copy is poor business. The legitimate business of the school is primarily storing the mind with forms of knowledge and imagination, and then, as the stimulus of occasion comes, the re-assembling and combining of these forms

into original matter worth expressing with all care for correctness, and, so far as possible, with the elements of charm and grace.

"A literary ambition outrunning the mental supply is the cause of many of the weakest compositions. Hence the teacher has to be chary of solicitation for fine effects. If a pupil is not, and has not long been, a reader and an attentive listener, his mind remains sterile, and his composition must be set and formal; *his* best is to obey the rules of grammar and rhetoric. As I cannot segregate an original, inventing class from the plodders and docile performers of tasks, I cannot take my stand squarely on your (*b*); but must hover freely, with the privilege of alighting on either side of your line, almost as if it were not there."

(*f*) "Either extreme seems bad. I may be missing the point of the question, but I fail to see any justification for the existence of the two ideals as distinct. Few things, on the one hand, tend to become so dry, mechanical, and perfunctory as writing 'clearly and correctly about ordinary matters.' If the matter to be written about isn't to some appreciable extent a little out of the ordinary, a little out of the common run, a little worthy of attention because of some new phase to be noted, what difference does it make whether anything clear or correct be written about it or not? On the other hand, few things tend to become so dreary and remote, so trivial and sentimental, so empty of all reality, as 'the production of literature,' distinct from the ordinary matters of life, especially that 'production of literature' which is identified with the pumping up, or conjuring up, of 'literary thought' and the writing of them down 'with literary force and grace.'"

As to the question whether there should be any difference in the ideals of the teacher of composition in the elementary school, the secondary school, and the college, there is also divergence of opinion.

"Emphatically, no," says one. "The difference is one of degree, degree of maturity and degree of mastery of technique."

"The ideal should vary," says another; but the next opinion

is: "Tho the method may vary, the ideal is constant." This latter view is shared by a half-dozen others.

But the reservation is made by some that "there isn't much difference between the '*ideals*' of the elementary school and the college; but there may well be considerable difference in *method*, simply because the college man has come to have a different kind of thought to express from that he had when in the primary school. The method ought to be progressive, to match the expanding thought of the boy and man."

This view is variously presented, but the two following opinions are typical:

(*a*) "One doesn't teach a skater the grapevine twist in the first lesson; but the ideal of the beginner and the trained athlete is the same."

(*b*) "There should be no essential difference in the ideals of teaching composition at any stage of the student's course. The aim should be to teach him to use his mother-tongue clearly, correctly, and forcibly in treating subjects which he understands. With the student's advancement in knowledge and intellectual power, the subjects will, of course, assume a wider range. But at every stage simplicity and sincerity of utterance are worth far more, in my judgment, than all the literary or rhetorical tricks the student can be taught."

In the judgment of a decided majority there should, however, be a distinction drawn between the college and the preparatory school both in aims and in methods. Some, on the other hand, would not change the ideals or the methods except for the most advanced college classes, and some would make no concessions except to an advanced college class "made up of a very select list of picked men."

A mere summary can hardly do justice to the views expressed on this matter, and I therefore present as before a selection of the most characteristic opinions as phrased by those who hold them. We may note that emphasis is in general laid upon the importance of the early mastery of the mechanics of writing (even in such matters as the making up of manuscript), and the formation of habits of correct and clear expression. The last stage is then naturally the development

and perfecting of technique so that the expression may be a spontaneous and accurate transcript of the thought. Writing produced at this stage may in favorable instances possess both force and grace and display genuine literary quality.

(*a*) "My personal experience is that until a pupil reaches college he must work mainly for clearness and correctness; and scarcely more than one Freshman in fifty passes beyond this stage. Of course as the boy advances from the elementary school, he can do each year a little more in the way of adding interest to his writing. Literary ideals may properly be considered in an advanced elective course."

(*b*) "Decidedly, yes. Consider the preposterous assumption—that teachers in elementary schools or teachers generally *could* teach the art of writing with literary force and grace in any considerable degree. They will probably go as far in that direction as their natural capacity leads them, and I should tremble for the result of a conscious attempt at anything more.

"We distinguish *between the advanced* classes in college, setting one apart for confessedly literary work and putting it into the hands of one who is competent in literary judgment."

(*c*) "In the elementary school the teacher must surely have to aim chiefly at mere clearness and correctness; in the secondary school, some more conscious and definite aim at the cultivation of 'taste' in composition (as well as in speech) should constitute a modification of the method of the elementary school; in the college the aim should be to set forth the whole truth of the matter, that the employment of language is an art. The practical and the artistic uses of the art may then be fully defined. No teacher will allow the fundamental principles of clearness and correctness to be neglected when striving to secure something in the way of 'force and grace.' The ultimate aim of the entire course should be the cultivation of *good taste.*"

(*d*) "In the primary school the aim of the teacher should be *exclusively* to train the pupil to express his thoughts clearly and correctly. It will not often be the case that pupils of this grade will 'think literary thoughts' of any higher grade than

the juvenile type, but such thoughts should be well expressed, if expressed at all; quite as much as 'ordinary' ones.

"When the pupil has reached the high-school grade he will in most cases begin to have 'literary thoughts'; generally not his own, but borrowed from his reading. It is important that he should be trained to express these thoughts *clearly* and *correctly*, if he uses them in his theme writing; as for the higher literary qualities of *force, harmony,* etc., I can see no reason why they should not have proper attention, but not at the expense of time needed for the other purpose.

"In the college I would have only literary composition. It seems to me supremely absurd to refuse to admit a pupil to college who commits errors in translation and grammar in his Latin or French and yet admit him without the ability to *read, write,* and *speak* the English language with clearness and correctness. The college should not be required to teach theme writing, with attention to such matters as punctuation, capitals, grammar, etc., any more than it should maintain a required elementary course in mathematics in order to assure itself that all the newcomers have mastered the multiplication table."

(*e*) "To all the subdivisions of this question I should be inclined to answer, yes. Premising that my inexperience with elementary and secondary schools may lead me to pronounce on the matter as I should perhaps not hold by in actual teaching therein, I would say: In the elementary school the pupil's interest, observing power, imagination, should be roused, and the subjects and exercises should have this in view, grammatical and minutely verbal matters being so incidental as not to check the observing and recording current of the pupil's mind. In secondary schools grammatical drill, choice of words, sentences, phrasing, and the like, should be the predominant matter, not on the score that these are best liked there, but because there is no other place and time so suitable to acquire them. We cannot always consult a pupil's mere likes and dislikes. In college I *have* to distinguish between beginning and advanced classes, partly because, to begin with, I have to bring considerable work left over from secondary schools up to date, and partly because it is inexpedient to enter upon

the higher matters of rhetoric without making sure of the practical matters on which these are founded. For beginning classes I go over the elements of style—words, phrasing, figures, sentences, paragraphs, but in a way which the ordinary secondary school does not do, namely, as elements in literary work, and with the higher qualities of these recognized along with the practical. For advanced classes the mere distinctively literary qualities come more to the front, and the finishing processes of the whole composition and of the literary types."

(*f*) "The too early attempt to produce literature stands directly in the way of clear and correct writing about ordinary matters. If the imagination of the elementary or secondary schoolboy is subjected to the forcing process, the results obtained are at the expense of observation, memory, and common sense. I should require of the pupil of the lower grades accurate relation of what he has seen, heard, read, or thought."

The third question is in a measure answered by the discussion of the two preceding questions. But a few words further may not be out of place. As regards the vague and somewhat pretentious phrase, "alien to the genius of the nation," the Pedagogical Section is unwilling to claim "veritable authorship." But the phrase, vague as it is, does suggest the practical question whether, in view of the sort of pupils to be found in the ordinary school, it is wise to emphasize the literary side of expression with a conscious aim at literary effect, and to organize the classes in composition into what may by courtesy be called associations of young American authors.

Having thus in a measure cleared the skirts of the Pedagogical Section, I may again give place to those whose opinions have been really asked for.

(*a*) "The writer in the *Academy* has not had in mind the fundamental facts, that language is a conventional institution, and its use an art. It never was contrary to the genius of any nation to use its language with 'literary' effect."

(*b*) "Taking literally the two statements quoted in the circular, I should agree with the former and disagree with the latter; that is, my answer to question three would be in the affirma-

tive. But regarding the spirit of each statement, my answer would be, as I have indicated above, in the negative. Nothing is 'alien to the genius of this nation,' I believe, that seeks to develop in any individual, even in a schoolboy, some sense of the meaning and value of the ordinary matters of life, a sense which probably reaches its highest and most delicate development in the perception and appreciation of those values which we call literary values."

(*c*) "If to think clearly, to experience the appeal of beauty, to respond to high ideals, is 'alien to the genius of this nation,' why should we attempt to teach anything?

"The boy that, unaided, constructs a wheelbarrow is a 'maker,' a poet. The boy that, unaided, joins two sentences together is an author in embryo."

(*d*) "I do not see how the thing you mention is 'alien to the genius of this nation.' In fact, where can we draw the line, in anything above a business letter or agricultural report, in such way as to include the grammatical qualities and exclude 'force and grace'? If students do not come to see, in our schools and colleges, that literary force and grace are *practical,* serve a matter-of-fact purpose, as applied to their proper subjects, where can they come to see it? A college course is a culture course; if it isn't, then our country has none."

To some of these opinions are opposed the emphatic negatives of more than one of the best-known teachers of English in the country, and, significantly enough, of those men also who hold a recognized place among American men of letters. I cite first the view of the editor of one of the foremost American dailies that can point to a past with literary traditions:

"To teach the schoolboy to think literary thoughts is a sheer impossibility, and to tell him that he is undertaking veritable authorship is to lie to him unblushingly. I speak with feeling, because a considerable part of my life is given up to people who have far more ability than the average schoolboy, and who are laboring under the delusion that they are competent to undertake veritable authorship."

Says one of our leading men of letters: "Schoolboys can't think literary thoughts." To try to teach them to do so "is simply impossible. To pretend that they can, leads to sham." To lead them to suppose that in their themes they are undertaking veritable authorship, therefore, "seems very dangerous, because misleading."

More than one college teacher thinks that the attitude of veritable authorship is unwise because, as one puts the matter, "it is alien to the genius of the schoolboy, and to the principles of common sense. In this answer I accept the phrase 'literary force and grace,' at its intended value. I think boys can be taught to write with force and grace, but I think it is useless to try to teach them to write 'literary' prose or poetry."

Another briefly remarks: "It stands to reason that it is alien to the common sense of any nation to begin with *Chartreuse* instead of *soup.*"

Equally emphatic are the two following:

(*a*) "It is not 'alien to the genius' of this nation, in *particular,* 'to think literary thoughts and write them down with literary force and grace'; it is akin to the genius of every nation. The *folk* will never have literary thoughts or literary expression.

"Our education is for large bodies of persons. The educated classes need some gift of expression, some training in the devices for securing clearness, force, and a moderate amount of use; above all, for securing order and method in what they write.

"How many of our college students, do you guess, have even this humble gift? Not one in ten, I should say. Why? Because school and college fail to convey the lesson that writing is part of the *business* of life, the genuine expression of what the writer really thinks and feels. Teachers and professors suffer their students to drift into the notion that writing is merely something that must be done for a 'pass'; get *thru* and you are all right.

"But writing 'business' papers, whether in science, or in history, or in literature even, is not 'veritable authorship.' My

conception of authorship is something far higher, something of an altogether different order. I am unable to define it, but I know it when it comes across my path.

"To teach 'authorship' to the ordinary mortal is mere waste of time upon the impossible. Going farther, I would say that we can't teach 'authorship,' even to the gifted mortal. We can teach him and his less favored brother how to outline his subject, how to frame respectable sentences and paragraphs. *There we must stop.* To attempt more is to do more harm than good. When one has learned from his teacher the ordinary routine of expression, one can only turn to the world at large, learn its wants, and try his hand at meeting them. Success in that is 'authorship,' whether in literature, in history, in philosophy, in science. Nothing else can be authorship."

(*b*) "The purpose of the schools, it seems to me, should be to prepare boys and girls, or young men and young women, for life; and life in this country is, in the main, eminently practical. It is true that it may be argued that the ability to 'think literary thoughts and to write them down with literary force and grace,' may not be unpractical, but the large majority of those whom we teach in the schools will not be called upon to do these things, and if they were, would not find that they have the ability to do them. Our chief purpose as teachers, then, I believe, should be to prepare students to meet the actual conditions which will confront them after they are out of college, and these are mainly practical.

"I may say in addition to the rather brief replies which I have given to the three questions, that my attitude toward this subject has almost completely changed in the ten or twelve years during which I have been engaged in teaching English composition. At first I felt strongly that it was the business of the teacher of composition to lead the young, or the older, to 'think literary thoughts and to write them down with literary force and grace,' and I expended all my energies to accomplish this end. My efforts were very satisfactory to me until I discovered that the people whom I had taught to write so easily and gracefully, and as it seemed to me effectively, were quite unable to express the ordinary ideas of life, either

with clearness or force. I have gradually grown to believe that as they express their thoughts upon ordinary matters which every day concern them, as they work primarily for correctness and clearness, they are better prepared in time for real authorship, and it is because of this experience that I believe as I do."

After this presentation of representive opinions on the question suggested by the two quotations, there can be little doubt that conflicting ideals, both in aims and methods, are firmly held by many of the leading teachers of English thruout the country. More than one passage, however, in the contributions to this discussion would seem to show that in some cases the differences are not irreconcilable, for there is general agreement that the less attractive, formal side of the art must be thoroly taught, as well as matters that are delightful and stimulating. It is probable, too, that all would urge the importance of sincere and natural expression from the beginning, and the avoidance of anything like posing, or whatever is characteristic of the literary prig. But, in the interests of educational theory and practice, it is to be hoped that the questions here raised will not be dropped, either here or elsewhere, until they have been discussed with the thoroness that their importance demands.

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VII

SOME EDUCATORS I HAVE KNOWN (I)

In an experience of thirty years I have known a few educators somewhat intimately, and a much larger number slightly, and as much as I can do in the treatment of a topic of this magnitude, will be an expression of my own opinion of some few who have left strong impressions upon my own personality. My aim will be to touch upon the strong points or characteristics of such, and to indicate briefly the causes which determined each to be what he was, or is, in the educational work of this country. It will also lie properly within the scope of this sketch to speak somewhat fully of those who have helped me in my studies, altho some of them were not actively engaged in teaching. A life is not unlike Freeman's conception of history—a continuous stream—augmented from many sources, and in this framework called *mind,* the vanished images leave a composite that I have endeavored to interpret in these short sketches.

A year or two after I became acquainted with Dr. Joseph Baldwin, I asked him about the "big men" in the educational work that he had seen or known. He said dryly: "You will soon be as big as the largest. They are only men, some a little larger, some a little less. Few will really appear great when one gets close to them." This observation had a depressing effect on me, and yet he was a man of the most exalted views. Later, perhaps a year thereafter, in conversation, he said: "Greatness is a relative term. A man may be a giant in one or two respects, but the merest pigmy in other affairs. Great talent is usually accompanied with great defects." With these preliminary observations, I shall now proceed to speak of some of the men whom I have known and whose opinions have influenced my work not a little, yet I cannot hope to trace all the subtle influences which have con-

tributed to make that complex being which must set me apart from others as an individual.

When I was a child, I was deeply impressed with that mysterious influence called learning. I had grasped, in some manner, absorption perhaps, that, outside of the language that we speak, there were two other great languages, the Latin and the Greek, which contained mines of information and wisdom not found in other books, and that one to be educated had to study these languages. I heard them talked of, and talked about, and that the New Testament had been written in Greek. It was about this time that a Methodist minister, Rev. John Mason, who was stationed at Kirksville, Mo., published a small pamphlet on the word "Baptism," and when I read it, I got the first insight into Greek. I read eagerly what he had written, except the Greek words; but he was a grim, gloomy kind of a man, and was not an easy person for a boy to approach. On one of his monthly visits to our neighborhood, I had an opportunity of speaking with him, and he explained to me something of the Greek, the Latin, and the Hebrew, and that conversation set me soon after to studying Latin and Greek, as soon as I could get grammars. He passed away to another charge. I lost all trace of him. I write these few lines as a tribute to his memory.

W. P. NASON

When I was a youth there came to Kirksville, Mo., a tall, spare, straight man, with gray eyes, brown hair and beard, a fiery temperament, who was destined to influence my life in many ways. He was a South Carolinian, of lofty educational and religious ideas, of deep sympathy and a noble and generous nature. From South Carolina he had drifted as a school teacher into Kentucky, thence into Indiana, and at last into Missouri, where he still lives. He opened a school in Kirksville, or in that vicinity, more than forty years ago, and at one time I was a pupil of his. The third term I tried to teach, he was a county superintendent, and he visited my school and spoke to the citizens on education. The lecture was founded

on David Page's *Theory and practice,* and this was the first real inspiration that I received as to the nature, scope, and purposeful work which the teacher ought to do. The idea that education embraced three great divisions seemed to me one of the grandest and most profound truths that man had ever thought out in his experience on earth. I had felt half intuitively the truth of physical, intellectual, and moral culture, but I had never seen the great force of these fundamental principles before. The next morning I was ready to repeat his entire lecture verbatim. It seems to me that his lecture that night was the most eloquent educational address I have ever heard. Soon I went to Kirksville just to borrow that book and read it. The day was very cold, the distance more than ten miles over a prairie, facing a biting northwest wind, and the thermometer twelve below zero. I rode on horseback, and when I was too cold to ride I got off the horse and led him, while I would run and get warm. I devoured the contents of that book that night and the next day. David Page had passed into my mind never to be effaced.

Time wore on till in August, 1867, Prof. Nason and I were engaged in the Kirksville Normal School by Dr. Joseph Baldwin, and for several years we worked side by side. After I went to Kansas City he remained in the Normal School some ten or twelve years longer. Now he is an old man, and one of the best and purest Christians I ever knew.

He was a born teacher. He put all the energy of his ardent, fiery Southern soul into his work all the time, and he was the best five-to-ten-minutes speaker I have ever heard. While he was never known outside of his adopted State, except as his thousands of students spread his fame, yet in Missouri, among those with whom and for whom he wrought, I know of no other one who has left a brighter or more lovely record, and whose genuine goodness is more deeply enshrined in the hearts of those who knew him best and loved him most. Coming in contact with him personally when I was most impressionable, his influence had much to do in molding my thoughts and actions. We differed most in this: He saw quickly. I had to work patiently and get hold more slowly. If light did

not come to him at once, he turned away. I groped doggedly in the darkness until it came.

JOSEPH BALDWIN

Dr. Baldwin was a great worker, a great manager, and a great inspirer of young men and young women. The very first year that I worked with him, Prof. Nason and myself soon came to the conclusion that it was his mission to inspire people to achieve great and noble deeds in making people better and wiser. Perhaps, if tested by uniform State examination questions, or such tests as are required by city boards of education, his record in several respects would have been very low, just as it has been recently said that Dr. Arnold would have failed in every one of the twenty-eight different points that a principal of a certain city school should possess, —yet he exerted a profound influence on the character of the boys that came to his school. Not a profound scholar, yet a vigorous and comprehensive thinker, Dr. Baldwin had thought out and felt out many of the problems of school-room management, class tactics, methods of presentation of subjects and subject matter, far better thirty years ago, in my opinion, than any other man in the United States. His optimistic views on education he had received from the profound logician and speaker, Alexander Campbell of Bethany College, Virginia, and also from Horace Mann. He seemed to have imbibed to the saturation point the running waters that flowed so copiously from their wells of educational inspiration. From him I gained insight into school work. He filled me, thrilled me, with enthusiasm to help the teachers and the children of this country to devote all my energies to teaching. We talked freely and often over all kinds of questions —the near as well as the remote; the past, the present, and the future in education, religion, politics, agriculture, commerce, but most of all of the problems of philosophy and of life in the future. He always saw greatness in the possibility of childhood and children. An intimate friendship covering a period of seven years with such a man, and then continuing some fifteen years longer till his death, consolidated my old

thoughts and added a great stock of new ones. But one is unconsciously made up of many component forces—life forces generated by others. While with Dr. Baldwin I approached him on many sides, perhaps on every side, of his life, in order to get his opinions just as Eckermann in his conversations sought to penetrate Goethe's very citadel of thought. It was not in the spirit of criticism, but for the purpose of getting his view-points in order to compare them with my own. His inner life I knew, and the high motives by which he was actuated. His greatness consisted in his nobleness of soul and the high ideals that he continually placed before the young people—the stimulating words to be somebody and to do something worthy and good.

He showed at his best as a platform speaker. His delivery was excellent, his articulation well modulated, and his sentences short, powerful, epigrammatic, abounding often in bold contrasts. He never descended, in public or private discussion, to the level of the mere quibbler. He discussed issues, not individuals. From him I learned a great deal, not exactly information, but wisdom. He was eminently a wise man.

JOHN WAYMAN

It is eminently proper that I should give a brief sketch of this clergyman, whose life for several years was so close to my own. He was a poor boy in England, partly deformed in one of his feet, and before he came to America he had learned the shoemaker's trade. He had attended school at Berea College, Ohio, and Prof. Aaron Schuyler was his teacher. There he received a good classical education, and later he came to Missouri and was placed in charge of a small circuit. I saw him first a year or two after the war had closed and he had come to our neighborhood to preach. He walked from Edina to Paulville, a distance of about twelve miles, and I recall now how he looked as he came up the road, stick in hand, slightly limping. He was rather tall, square shouldered, with black eyes and hair, and a large birthmark on his face. His manner and dignified bearing drew all classes to him. He was a Methodist, but without prejudice. The next year he was

located at Kirksville, Mo., and it was there that an intimate acquaintance sprang up between us. When the Kirksville Normal School opened in the autumn of 1867, logic was assigned to Mr. Wayman. He had a class outside of the school. Some five or six started in, but in two or three weeks the class was reduced to Samuel M. Picker, who was then a young man, Miss Sue T. Thatcher, and myself. Mr. Wayman had studied logic under Dr. Schuyler, and he knew Aristotle's and Sir William Hamilton's logic well. We studied it thoroly, and as he was enthusiastic, we were also. I had studied logic at school, but the text was weak and the teacher weaker. Under Rev. John Wayman it was great work, and ever since it has been one of my favorite studies. As a mental drill I rank it very high. We first used Coppée as a text; then Sir William Hamilton's lectures. For six years I taught the classes in logic, as long as I remained in the Normal School, and it was one of the most popular subjects that the senior class had. The subject is too much neglected in most colleges and universities now. Few students know anything of weighing evidence or detecting fallacies.

Rev. John Wayman induced me to read fiction. He regarded it as a necessary part of general education, and in these two directions he set me to work. He was a thoroly good man, of strong mind, of a pure and upright life. When I read of his death a few years ago, I paused in the reading to wipe away the tears, then put aside the paper and went out and walked aimlessly for nearly an hour. We face life and death at the same instant.

WILLIAM T. HARRIS

I first saw Dr. Harris in St. Louis in May, 1868, at a session of the Missouri State Teachers' Association. He read a paper which elicited much applause from a large number of the St. Louis teachers present. This was the first time, too, that I saw Mr. Thomas Davidson. A year or two afterward Dr. Harris began a series of annual visits to our Kirksville Normal School, and on those occasions he would examine

the classes in logic and mental philosophy, or psychology, as it was most frequently called; also, the classes in general history and the theory and practice of teaching. He soon began, after my first acquaintance, to recommend books for me to read. The first book was *The Science of thought,* by Prof. C. C. Everett. I have the volume I then bought of the publishers in Boston, and when Prof. Everett revised the work, a few years before his death, he sent me a new book. I corresponded somewhat irregularly with the author. My acquaintance ripened with Dr. Harris, and he has recommended a great number of books to me; the last was during the meeting of the National Educational Association at Detroit in July, 1901. While always naturally inclined to the lines of thought which lead out into the fields of speculative contemplation and the department of the fine arts as related to the historical development of the different kinds of civilization that have been reached in successive ages of the world, Dr. Harris has ever been to me the most potent guiding factor. His philosophical views at times seemed to be too subtle, yet the general drift pleased me even while I had to work out all my own problems as well as I could in my own way and from my own view-point. Certain great questions that would continually come forward which thinkers had to grapple with, I endeavored to understand, and I also endeavored to understand Dr. Harris' solutions as compared with my own thoughts on each particular subject under investigation. In taking hold of these deeper questions, and in trying to get at the root of the matter, Dr. Harris has helped me more than any other person. We seemed to touch at many points, while in other respects we were very much apart, so far as I could determine. Perhaps this was more in the matter of detail, especially in school work, and as to when and how certain things may be profitably undertaken, and what subject matter may, or may not, be introduced. In taking hold of questions, turning them over and viewing first one side and then another, even many of those of administrative policy, we have not often differed, and on the theory of grading rural schools, we stood in a woeful minority, and so on upon the "no recess plan"

which swept over much of the country some years ago. Many times I have felt that Dr. Harris saw into certain matters farther than I possibly could, and I was willing to let it go at that and plod along in my own way, asking myself occasionally what he meant if he should happen to put his thoughts into a concrete form, and I have no doubt that a great many others have had like thoughts. I never hesitated to ask Dr. Harris what he meant by a statement or a view that he held, but oftentimes an opportunity did not occur. He would always explain in simpler terms. As an illustration, he told me that he studied Plato hard for a year and a half before he understood a single thing that Plato said. He was groping in thick darkness. We can interpret the new only in terms of our own experience, and if this translation cannot be made it must remain unknown. On or along the lines of philosophy, literature in general, history, the philosophy of history, art, social organization, and philology, I am under the greatest obligations to Dr. Harris. He measures men and determines their limitations with great ease. He is a good man to tell whether one is clearing up the murky atmosphere or whether one is still going deeper into the fog bank. He has watched more mental curves, and predicted their paths than any other one that saw the beginning of the new century. Often he has said to me: "Continue to bathe in Homer, Plato, Aristotle, Dante, Shakspere, Goethe, Carlyle, and Emerson. Take sun baths in those daily." Of all the minds of men that I have come in contact with, either in books or otherwise, I regard Dr. Harris' as the richest and the most comprehensive. His ideas upon the literary, the ethical, the philosophical, the historical, and the artistic phases of education, have had more to do in shaping the educational thought of America than those of any other great man this country has produced. Of course, the new physiological psychologists, in some instances, have essayed to supplant the older views of the science of the soul, but wherever their opinions have come into sharp collision with Dr. Harris' theory of knowledge, ethics, religion, and consciousness, it was only to have their materialistic crafts water-logged, and

they were left wondering how it happened. Perhaps no other one has grown so thoroly into the limitations of such knowledge as he has, and has ascertained just what a certain line of investigation is capable of yielding. Every philosopher proposes to himself the resolution of certain definite problems, and his results depend entirely upon his own view-point, the method of work, and his grasp of the subject. Dr. Harris excels in comprehensiveness, concentration, and the exclusion of irrelevant matter, and it is to these qualities, aided by great natural aptitude, he becomes the most dangerous man in debate that ever entered the educational arena. He delights in puncturing educational, scientific, and other air bubbles, and he is a master in this art.

DANIEL READ

The first president of the Missouri University that I knew was Dr. Daniel Read, a man of gigantic proportions and of monumental information. He came from the University of Wisconsin to the University of Missouri just after the close of the Civil War, and he was president for ten or twelve years. It was during the latter part of his administration that I became acquainted personally with him. During the summer vacation of 1872 Prof. Joseph Ficklin, who was professor of mathematics, mechanics, and astronomy at the university, was at work on an algebra, and he wanted me to assist him, and I was with him about six weeks, working on the manuscript. President Read's office was near the room in which we worked, and visits were frequent. The doctor was a great talker, and all one had to do was to start him, and such a flood of learning as he would pour out in a great volume was overpowering. His knowledge was not only ponderous, but it was accurate. His mind absorbed, pigeon-holed, and then kept its acquisitions on tap ready for instant use. His particular subjects were mental and moral philosophy, international law, politics, and what not. He was as versatile, perhaps more so, than Lord Brougham, without the irascibility. He was the only man that I have ever known who could just stand up and make a speech in Latin without

hesitation. He could speak fluently for an hour at a time, maybe all day. He knew the *mécanique céleste* just as well as he knew the college algebra. That summer he reminded me of Olympian Jove—shirt collar unbuttoned and thrown back, shirt sleeves rolled up, sitting or walking the floor with a very stout cane in his hand, explaining some critical Biblical text to Professors Ficklin and Swallow and myself. He would deluge us in a cloudburst of learning—a regular washout. It made no difference what department of learning one touched upon, he was always loaded. Sometimes, after he had been directing catalogs for an hour or two, the colored man, George, had slipped out of sight, or more frequently dropped into a quiet doze, the doctor would call him,—then start, stick in hand, calling George, and as that cane struck the floor at every step, and as the sharp, high tones of the doctor's voice rang out "George! George!" we would quietly chuckle. An anecdote will illustrate one trait of the doctor's views, and his vigorous mode of expression. If there was one thing he did detest more than any other, it was the tobacco habit. There had been a large educational gathering in St. Louis in 1870, and the Laclede Hotel was our headquarters. The teachers from the northern part of the State had to go home on the Wabash Railroad. The morning we left the hotel there were fifteen or twenty men and women in the same omnibus, the doctor being one of the passengers. There happened to be a gentleman, a stranger to us all, inside, and he was puffing away at a cigar to the great disgust of several women. As we were driving to the depot the doctor let loose on the filthiness of chewing and smoking in the presence of ladies, and the women smiled, and I never heard such a dissertation and excoriation in my life. Soon the man threw away his cigar, and, for reasons unknown to us, he slipped from the omnibus, and he did not go out of St. Louis on that train. Being the first full-sized university president I ever knew, his immense learning I took as a sort of measure by which to test others since. From my acquaintance with him, I am firmly convinced that a man having a strong, vigorous body, a bold, elastic, powerful mind, retentive memory, ex-

cellent powers of classification and generalization, is able to map out and master quite well several fields of knowledge. Now, when I see little scrubby fellows, knowing something of one subject, with the whole alphabet pasted either before or behind their names, I believe President Read, who was a real doctor, would, if he knew them, turn over in his grave.

JOSEPH FICKLIN

One of the best-loved men that the Missouri University ever had was Prof. Joseph Ficklin. He was born in Kentucky, and when a lad his father moved to Missouri. After receiving a common-school education he was sent to the Masonic college that was once in existence at Lexington, Mo. After leaving that institution he taught school at Trenton, Mo., and was eventually elected professor in Christian Female College at Columbia, and in less than a year he was elected to a professorship in the Missouri University. This was about 1864, and he remained with the university till his death, in 1893.

Altho I had corresponded with Prof. Ficklin irregularly on mathematical subjects from 1866 to 1869, it was not till that year, during the commencement exercises at Columbia, that we met. In stature he was slender—hair rather dark, eyes intense and eager, of a grayish blue color, face and cast of features Grecian, and his entire bearing that of a soul in deep repose, brimming with an undercurrent of playful humor. He was a mathematician of great ability, particularly in difficult integrations and in mechanical and astronomical problems. His mind was a splendid combination of the theoretical and practical, and he was fitted in a high degree for the position which he so ably filled. There were few abler men than he in the United States on his special lines of mathematical and mechanical problems. His knowledge of Latin, Greek, and chemistry was comprehensive, clear-cut, and exact. He was one of the best-read men in the Bible that I ever knew, and every one of Dickens' characters he had at his fingers' ends. The summer we worked on the algebra together, he always worked with his long coat on, and I in

my shirt sleeves. We would probably work for an hour without speaking, and then he would stop and tell me a dry, quaint anecdote, and Prof. G. C. Swallow, the great geologist, would hear us laughing, and he would come in from labeling specimens, and call out at the door: "Triangles, what's the matter?" Prof. Swallow was a native of Maine, and he had come to Missouri when a young man, where he must have spent forty years of his life as a professor in the university before he went to Montana. From these two great men, each great in his own department, one in mathematics, pure and applied, and the other in geology, I received great help, not in the classroom, because I never saw either in the recitation room; but it was the contact with minds of a superior order.

Professors Ficklin and Swallow were men of high religious character. Once when I asked Prof. Ficklin to what he attributed his success as a teacher and student of mathematics, he said: "If one wants to dig a deep hole, one must dig in the same place." In order to know a few things well, he was content not to know a great many other things. When Prof. Ficklin died, I felt that a great light had gone out of my soul. He was the quiet, patient worker.

S. S. HAMILL

My object in introducing so many short sketches is to indicate the chief sources from which I derived benefit either by general contact or by the technical study of certain branches. Rather early in life I had formed pretty correct ideas on the subject of oral expression from the drilling I had received from Prof. S. R. Sweet, who taught reading and arithmetic well, and then later from a careful study of the instruction given to teachers in McGuffey's series of readers, and Bronson's elocution. From these sources I had derived a good general notion of what good reading is, and how it ought to be taught, and that there are certain definite underlying principles upon which the subject is based, and that in order to read well or to give directions to others, it is necessary to build up in the mind a system of knowledge or a basis upon

which to correct defects in utterance and action. Expression depends upon principles, and the one who does not know what to do when the defect exists can be of little benefit to the learner. It was not till I came in contact with Prof. Hamill, in 1869 or 1870, that I found one who had actually worked out a system of reading that was based on rational principles. He was a classmate in college of James G. Blaine, Prof. Swing, and other noted men who became distinguished in one way or another in the history of our country. Prof. Hamill was a man of commanding presence and of elegant manners—a Chesterfield in address and the art of conversation, and one of the most careful men in pronunciation, diction, and rhetoric I ever saw. His taste was high, critical, and comprehensive, and he never put aside his elegant manners or his dignity on even the most trivial occasions. In short, he was an accomplished and cultivated gentleman. He taught, in those days, college presidents, professors, and students in many institutions of learning, and he placed before them the soundest principles underlying the important branch to which he had devoted his best energies. He had analyzed every line of thought suggested or hinted at by the great Dr. Rush, coming on down to Murdock, Russell, and others. He had listened to all the great actors, native and foreign, that had been upon the American stage during his public life. His cast of mind was logical, analytic, artistic, and literary. He was one of the best rhetoricians that I ever knew. His forte was in the line of the pure, the simple, the terrible, and the sublime. Seldom would he condescend to the frivolous, unless the selection was from Dickens or some other author of repute. I studied under him, and then for two years I was associated with him in the same school. Before that I read the manuscript of his first book, *The Science of elocution,* and while I never became anything more than a fair reader, he regarded me as being one of the very best critics, and one who could, as it were, put his finger on the weak spot in one's reading and suggest the proper remedy. Thus, it will be seen that in a few years I built up in my mind a body of reading knowledge which I mastered and assimilated most thoroly,

and it has been of incalculable benefit to me in all the years that I have spent in supervising schools, and I believe that the knowledge which I obtained in this way, was and is of the highest practical value, farther reaching than one who is not familiar with the basic facts in reading can appreciate. In after years I gathered much from some other teachers in reading, but it is to Prof. Hamill that I am most indebted, and as I knew him then, he magnified the great work in which he was engaged for its own sake.

SAMUEL SPAHR LAWS

Upon the resignation of Daniel Read from the University of Missouri in 1876, Dr. Laws was elected president, which position he held till 1889. Prior to his election as president, I had heard his name mentioned occasionally as a teacher at Fulton, Mo., and as a minister of the Gospel. He was a stranger to me in 1876, and it was with no small degree of interest that I regarded him during the first few times we met privately, or at educational meetings. He was not quite so large as Dr. Read, but he was somewhat stouter and thicker. While I never had any way of measuring definitely the full expanse of Dr. Read's knowledge, yet on whatever subjects we happened to touch, he seemed to be perfectly at home, and upon my acquaintance with Dr. Laws, I contrasted his mental equipment with that of Dr. Read. It seemed to me that Dr. Laws carried the best-assorted, definite, and exact stock of knowledge of anyone I ever knew, with the exception of Dr. W. T. Harris. Having attended the common schools of his native State, Virginia, he entered Miami University and graduated with high honors in 1848, and he then entered Princeton Theological Seminary, where, after a three years' course, he graduated in 1851. On leaving Princeton, he was engaged a few years in pastoral work in St. Louis, when he was called to the chair of physical science in Westminster College at Fulton, Mo., and the year following he was elected president, which position he was forced to give up in 1861 on account of his Southern sentiments. After being imprisoned for several months he was forced to leave the

State, and he went to Europe, and returning to this country he settled in New York City, where he entered as a regular student of law in Columbia University, and was graduated. Later he was enrolled as a member of the bar in the city of New York. He next enrolled as a student in Bellevue Hospital Medical College, and took a four-years' course. His object in taking the medical course was to study up the normal and the abnormal facts of the bodily organism in relation to the soul. "I found," he said, "that the phenomena of consciousness could not be explained by mere force, and so set forth in my inaugural thesis on the dual constitution of man." Once, in speaking of this period of his life, he mentioned that he had done some very dirty work in order to get some very clean facts. As a student he preferred to read the Bible in the original, and he was never satisfied except he could get at the original sources of knowledge. While a fine classic and Hebrew scholar, yet he was equally at home in the sciences. In all kinds of metaphysical doctrines, he was one of the best-informed men in this country. While in New York he organized the Gold Board, devoted much time to clinics, and worked a great deal in the dissecting room to perfect his knowledge of the nervous system and the brain. He came to the university admirably equipped. Not only this, he was one of the most carefully read men along the sciences, not in one field, but along all lines, and particularly in biology, physics, chemistry, the teachings of Darwin, Weisman, Dawson, Tyndall, Huxley, Herbert Spencer, Joule, Mayer, Draper, Thomson, Maxwell, Le Conte, *et al.* His ideas were always on a large and high scale, and he is the most exact man in the explicit statement of his propositions that I ever heard speak. He acquired the habit because the newspapers and men sometimes did not quote him correctly. When I became well acquainted with him, and learned the wide range of subjects he had mastered, I regarded him as the best critically informed university president in this country. He had spent much time abroad looking into the great universities of England, Germany, and France, and it is my impression that he studied in Germany several years during

his early life. The last few years before he entered the Presbyterian Theological Seminary in South Carolina, he lived in Kansas City, and he was a constant attendant at the "Greenwood Club," before which he read several papers, and always took part in the discussions. He is a man of decided convictions, of gigantic and encyclopedic learning, affable and social in all his relations with his fellows, a profound and conservative thinker, and, in my judgment, the best-informed university president in America—but outrageously treated by a few psuedo statesmen in Missouri. He never acquired that peculiar characteristic of a college president so necessary nowadays—"to be a lusty beggar."

One of the greatest helps Dr. Laws was to me was along the line of specialization. We agreed most heartily upon the point that a young man ought to be a good scholar, before he entered upon a special line of work—that one of our greatest educational dangers was specializing too early—before one had anything to specialize upon. I have never indorsed the opinion that an educated man should just know one little bit of a patch of knowledge, and not cultivate some other fields. I regard the specializing theory without general knowledge as an educational fallacy, and when logically carried out, puts a part of the part for the whole. A man should be a man first, and then a human attachment to a piece of machinery afterward, if that be his choice. A dried-up thing is never a live specimen.

MORGAN STEVENS, ARTEMAS MARTIN, WALTER SIVERLY, WILLIAM HOOVER, AND OTHER MATHEMATICIANS

Just after the close of the Civil War I worked on the farm with my father, and I subscribed for the *Saturday Evening Post,* published in Philadelphia. This paper contained a column entitled the "Riddler Column," and in it were published enigmas, conundrums, and mathematical problems. Quite a number of gentlemen contributed mathematical problems and answers. No solutions were published. With the exception of Dr. Edward Hagerty of Baltimore, Daniel Diffenback of Pennsylvania, and Judge Scott of Ohio, the contributors were

mostly young men. I could work some of the problems at first, and in a year or two Mr. Morgan Stevens, Dr. Artemas Martin, Walter Siverly, and I answered a large number of all that were published. From these gentlemen I gained a great deal of valuable information in regard to methods of handling many problems of considerable difficulty, and with the most of us a regular correspondence was carried on which in some cases has continued to the present time.

Mr. Morgan Stevens was a native of the State of New York, a graduate of her State Normal School, and then of a university, he had moved to Scott County, Iowa, and was engaged in farming, which he followed till his death, more than twenty years ago. I visited him twice—once in 1872, and again in 1875. He owned a good farm, had an excellent mathematical library, but, during the last few years of his life, he was obliged to give up his favorite pursuit owing to an organic disease of the heart. Our correspondence covered a period of more than thirteen years. During our early acquaintance he aided me very much in my mathematical studies, and, till Dr. Joel E. Hendricks moved from Indiana to Iowa, he was the ablest mathematician, I think, in the upper Mississippi Valley. He was about fifteen years older than I, but he was always willing to throw light on obscure points. His knowledge was far above the attainments of the average college professor.

The last time we met I had him visit me for several days in Davenport, Ia., and while he could not bear excitement, it was indeed a great pleasure to sit and listen to his quiet voice recounting what he worked out at spare hours while he had been farming. He was one of the true men—better known by a select circle living far from him than he was by his neighbors and acquaintances.

About the same time I became acquainted with Mr. Stevens I wrote Dr. Artemas Martin, then of Franklin, Venango County, Pa., for the solution of a problem, which he kindly sent me. This was the beginning of a friendship which has lasted to the present. Dr. Martin is one of the most remarkable men of this country, and to-day, along certain lines of

mathematical thought, he has no superior and few equals. He is what is called a self-made man, as was Dr. Joel E. Hendricks. That is, he never attended school but a few months. But he has been a hard student all his life. He is a good mathematician, and one of the clearest writers of the solution of problems that I ever read. Every solution that he ever published, and he has published thousands in this country and Europe, is a model of neatness, clearness, and elegance. In Diophantine Analysis, the Theory of Probability, and Mean Averages he stands at the head. The only two that approached him were the lamented Prof. E. B. Seitz and Prof. Zerr, now of Philadelphia. I regard each one of these men as being somewhat abler than Prof. W. S. B. Woolhouse of Great Britain.

Dr. Martin is something more than just a problem solver. His library must consist of at least 10,000 volumes, and it is one of the best assorted and most unique in the United States. Dr. Martin did more for twenty or twenty-five years to stimulate mathematical studies in the United States than any other half-dozen men in it. He helped the young men, and he was all the time reaching out among them. Prof. John D. Runkle had published the *Mathematical monthly* about three years when the Civil War broke out, and he was forced to suspend its publication. Artemas Martin, a half-dozen years later, came upon the stage,—this "truck gardener," photographer, printer, and all-around worker,—and began editing mathematical columns in several school journals, and soon his name was a household word with the thousands of teachers and college professors. Tens of thousands of teachers were influenced by his letters and published articles thruout the country.

The revival had a widespread influence upon the mathematical thought of the country, and it involved a large number of young men in it, and it has kept spreading till now there are many mathematical journals and magazines published, containing in each number contributions of decided merit, and some of great merit. The beginning was low down, but it worked from the bottom to the top.

There was another influence at work along mathematical lines which augmented the one just mentioned. Some of our young men attending the German universities began to dip into mathematics beyond what was offered in the meager courses in our colleges and universities, and there sprang up a wonderful awakening in this department of learning in almost every first-class college and university in the United States, and this has led to an acquaintance with the very best and latest discoveries in the higher mathematics in all parts of the world. The United States has rapidly passed up the mathematical line in the last quarter of a century, till now the general level of mathematical knowledge in this country is not excelled in European countries. The great mathematicians at one time in any country are never a numerous body. It has been one of the greatest pleasures of my life to have known a few of the men of the former generation and of the present, and to have exchanged thoughts with some of them. In times of sorrow and disappointment I know of no other field of thought equal to that of the *peaceful mathematics*. No wonder Archimedes wanted the rude Roman soldier to wait till he finished the solution of a problem.

J. M. Greenwood

Superintendent of Schools,
Kansas City, Mo.

(*To be continued.*)

VIII

DISCUSSIONS

WHY BOYS GO TO COLLEGE

During the fall term of 1901 the University of Maine, the State college situated at Orono, near Bangor, issued to the new Freshman class a series of questions, asking them frankly what motives led them to go to college, and in the second place why the University of Maine had been their choice. This State university, the only one in New England that corresponds closely in purpose and working plans to the State institutions of the Middle West, had in 1900-01 a total enrollment, exclusive of the Law School, of 364 students. The Freshman enrollment at the time of the issuing of the questions was 136 students, of whom not over a half-dozen were women.

At the university the engineering and the scientific courses have until now attracted a majority of the students, the classical department having been established only within recent years; since the university is the only one of the Maine colleges offering engineering courses, and because the science courses are carried fully as far as in the other three colleges of the State, the university draws naturally from all parts of the State, as will also be shown by statistics. The figures presented by this article are therefore apparently fairly representative of sentiments existing among the preparatory school students thruout the State, at least among those who are particularly interested in engineering and scientific courses.

Of the 136 Freshmen, 65 answered the list of questions; the completeness and straightforwardness of the replies, and the additional oral communications and comments of many of the Freshmen, seemed to indicate that the responses were sincere. While the committee having in charge the gathering of the statistics could not feel absolutely confident that the students' statements were always uncolored by the desire to please, or by promptings to mischievousness, the noticeable agreement in the answers to several questions seemed to show that the

students were really desirous of assisting the university in arriving at the object here sought, namely, the most advantageous methods of developing and maintaining mutually helpful relations with the secondary schools of the State.

That the university is a college for the whole State was clearly shown from the fact that the 136 Freshman students came from 74 different preparatory schools, and that the 65 students replying to the questions represented 45 preparatory schools. As in so many other colleges, it was here noticeable that a large proportion of the class came from a small number of schools; 17 per cent. of the entering class of this year came from two schools in the immediate vicinity of the university, and six schools, all within the State, sent 30 per cent. of the Freshmen. The remaining 95 students represented 68 different schools, an average of 1.4 students to each school. This feeding from a few schools seems common to colleges big and little; a recent report from the president of Harvard states that the Cambridge university is fed from a large number of schools sending now and then a student or two, and that the lion's share is always done by a half-dozen schools in the vicinity of Boston.

The University of Maine admits to college upon the certificate system, having upon its list of approved schools in 1901 85 schools in the State, and 13 schools outside of Maine. Evidently the approved schools are not constant in sending students, only 40 out of 98 schools having been represented in the Freshman class of 1901. This fact, and the delayed choice of college in the cases of most high-school students, suggests to the college that seeks actively to turn preparatory-school students in its direction that eternal vigilance is the price of a full class, "larger than any previous entering class in the history of the institution." The total number of new students at the university in 1901-02 represented 121 different towns of Maine, 15 in Massachusetts, and 5 in other States and countries.

Since at least half of the students at the university are obliged absolutely or morally to earn at least a portion of their college expenses by their own vacation work, or by dropping out of college for a period, it was no surprise to the committee

to find that 35 per cent. of the Freshmen had been out of school a year or more before going to college. In giving the date of certificate or last attendance in the preparatory school, 42 gave 1901; 12, 1900; 6, 1899; 3, 1898; 1, 1897; 1, 1895. Members of the faculty who come to know well the ambitions and the obstacles in the lives of college students are constantly impressed with the grit manifested by many undergraduates of small colleges. Indeed, in the case of the University of Maine, it may be safely stated that at least 50 per cent. of the letters received from preparatory-school students wishing to attend college contain a strong appeal for some chance if possible to earn money while attending the university. College presidents all over the land are familiar with letters like these, and know what a problem it is to find work for needy students.

The majority of the Freshmen had naturally not considered until their high-school days the possibility of entering college, and almost all had made their choice of college late in their preparatory-school courses. Evidently the "prospective" Freshman has an almost abnormal desire to remain "on the fence" as to his choice of college until within a comparatively short time before the opening term of college. Yet the college that seeks students must not neglect a constant pressure in all legitimate ways upon the fitting-school students; the official visits to the schools by members of the college faculty indicate that the lower classes as well as the graduating students are comparing steadily if not carefully the colleges of the State.

The answers to the question "What influenced you most in making up your mind to attend the University of Maine?" were of course awaited with interest. The policy of the college has been to distribute as liberally as possible to the fitting schools its catalogs, bulletins, and to some extent the student publications. By a large majority of answers this policy seems to be justified, for the preponderating influences of the university upon the fitting-school students seemed to be the low expenses of tuition and living, and the belief of the students of the fitting schools in the excellence of the courses. In comparison with these attractions no other feature of the college life or policy played an important part. Fifty-five per cent. of

the answers stated definitely this fact, showing that athletics, fraternities, social life, and "rattling good times" had little direct influence upon the decisions.

Of course, a father or brother who has formerly attended the college sometimes exerts an influence; not infrequently a boy wishes to go far from the paternal roof during college days; in a State institution, military drill, or the fact that the college is supported largely by the State and nation, will sometimes attract a Freshman, but even in such cases the boy will generally be considerably influenced by expenses and courses.

In recent years the university has pursued the policy of enlisting the services of the undergraduates, so far as their inclination would allow, in interesting the preparatory-school students in the college. The committee felt therefore much interest in the answers to the two questions: "What students of the university spoke to you concerning the university before you entered?" and "Upon what advantages of the university did they lay most stress?" The 65 students gave the names of 101 graduates and undergraduates, and several stated that they could not remember just how many had "talked" with them. These statistics give a percentage of 1.7 students to a "prospective." It is to be remembered, however, that far more students than come to college are prevented from pursuing a college course because of lack of funds, or for other equally potent reasons. Statistics at the university would indicate that the proportion of those forced to give up their hopes of a college course is to those successful in finding the opportunity to attend college as at least 10 to 1. The amount of "missionary work" done by the college undergraduates it is therefore impossible to estimate from these students' answers to the above questions.

It was also clear what advantage of the university the undergraduates emphasized, for 65 per cent. of the Freshmen had been approached principally from the side of expenses and courses, indicating that the college students employ of their own accord arguments the university would favor. Courses were urged by them more strongly than expenses, and it was very evident that the undergraduates were

not impressed by the athletic successes and failures of the university to the detriment of more solid attractions. Few of the undergraduates seem to have sought to draw students to the college thru arguments based largely on friendship, "good times," or "college spirit."

No series of questions nowadays would be complete without some direct reference to the influence of athletics upon college attendance. Forty-four answers were returned, 21 not answering; perhaps these feared they would be telling too much, or they may have considered the question relatively trivial. Sixteen of the 44 felt no influence whatsoever (and among these men was the best Freshman line-player of the 'varsity eleven), and 4 more felt no special influence; in short, half of those answering alleged that there had been little influence exerted upon them by athletics. About 25 per cent. felt a strong influence, and another 25 per cent. were influenced by the gymnasium or drill hall.

These statistics, as far as they can be relied upon to really express the minds of the fitting-school boys, bear out the belief of the athletic committee of the university that the influence of athletics upon the fitting-school boys is rarely very potent in determining their choice of college. But with almost every healthy American boy athletics seem to be a valuable means of directing his attention toward the larger and more serious advantages of an institution. Surely the prospective student is influenced in a quiet way by the reported prominence or absence of college spirit, and by successful athletic teams at the institution he has under consideration; at the college, too, there seems no factor of the student life that so successfully affords opportunities for a demonstration of what is, be it ephemeral or deep-seated, college spirit.

At the request of the athletic association, the following question was inserted: "If you participated in athletics in the preparatory school, what positions did you play in football or baseball, or if in tennis or track, state for what events you trained." Fifty-four players were recorded in the 65 blanks; 30 per cent. had played football, 26 per cent. baseball, 5 per cent. tennis (a form of sport neglected at the university), and 15 per cent. had taken part in track athletics. A question in-

serted at the request of the musical clubs showed that of the 65 Freshmen, 25 sang or played some instrument.

In addition the Freshmen were asked to give names of students then in the preparatory schools who were considering a college course, and from the many names presented the university has profited much. In conclusion, the Freshmen were given an opportunity to make any suggestions looking toward increasing the numbers of incoming classes. Only 29 suggestions were received, the majority of students being perhaps not quite sure in their own mind, indifferent, or not quite daring to assume the rôle of adviser to the university. Moreover, the suggestions were of a scattering nature, and did not indicate any strong opinion among the entering class. Of the answers, 9 advised the sending of college "literature" in some form to the fitting schools.

Reviewing the answers as a whole, it can hardly be felt that they give us anything absolutely new; they do, however, show that the students are thinking along common-sense lines; in the suggestions there is a noticeable lack of hare-brained advice. The statistics show that thruout the State the fitting-school boys are accustomed to think seriously about a college education; that they realize the value of money, and of knowledge; and that many of them are possessed of a sturdy desire to gain an education that they consider practical, if necessary, by the sweat of their brow. It is also evident, as far as these answers can be considered truthful, that athletics do not occupy an abnormally prominent part in the life and thought of the undergraduate.

The above list of questions was recognized by the committee as tentative, and by no means drawn up with the completeness that further experience would suggest. The results of a somewhat similar but more exhaustive canvass of the Freshman classes of representative institutions located in all parts of the United States would furnish comparisons that could not fail to determine more clearly than is now known the influences most potent in leading boys to college.

While the statistics from our greater universities would differ in some respects from those of the small colleges, it is quite possible that the answers from the small colleges would

present no great variations from the results here indicated. The small college, with moderate or free tuition, is still the best hope of vast numbers of our youth of limited means. The same heart-throbs, the same yearning for knowledge, the same struggles to "scrape together," are characteristic of the boys in all the States. And for every boy that finds the way to college open, it is still unfortunately true that ten others, or a score, or many more, who cherish just as ardent a desire to go to college, are prevented by financial or other reasons.

O. F. Lewis

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CALIFORNIA NORMAL SCHOOLS

In describing the competitive system of appointment of teachers in San Francisco in the January Review, I made the statement, referring to the competitors in this examination who were graduates of the four-year normal schools, that their training-school experience was one period daily for six months (amounting to 100 hours). While this statement is true for the graduates who took this examination, I would not have it go forth as a general statement that this represents the total amount of experience at present given in all of the four-year normal schools of this State. This amount of teaching experience I have been informed has been increased in some schools to 300 hours as a qualification for graduation. The statement I made referred only to those graduates who took this examination.

Frederic Burk

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IX

REVIEWS

Development of the child in later infancy—By GABRIEL COMPAYRÉ. Translated by MARY E. WILSON. (International Education Series.) New York: D. Appleton & Co., 1902. 299 p. $1.20.

Dr. Harris, in his preface, recommends this book "to that wide class of teachers who are desirous to see the results of child study, rather than interest themselves as experts in the dry details." The translation of the second volume has been delayed some five years, and inasmuch as the book contains no reference to any original studies subsequent to 1885, which really antedated the beginning of the so-called child-study movement, we must conclude that Dr. Harris takes the *a priori* doctrine even more literally than most metaphysicians would ask. However, to be honest in the matter, it must nevertheless be admitted that there is very little, if anything, in these voluminous subsequent researches which would now require M. Compayré materially to modify his opportune and very admirable digest of them. The book is not really a digest in the sense of attempting to arrange and tell what others have discovered, but the author has a philosophy of psychological development which he wishes to exploit, and to this end, for illustrative purposes, he quotes copiously from Preyer, Tiedemann, Taine, Darwin, Kant, Mme. Necker, Romanes, and other reputable child observers; that is, he uses quotations whenever these will fit his purpose, and when they do not he whittles them into suitable shape, or simply tells what he thinks. This method gives a rounded completeness and a greater force to his conclusions, than if he stopped every few paragraphs to make apologies for the shortcomings of the fact explorers. His thesis is that all the mental faculties of the adult complex—and, be it emphasized, Professor Compayré insists that there really are "faculties"—are products of evolution traceable backward in the life of a child to simples of instinct and automatism. Judgment finds its tap root in mere

sensibility; conscience is traceable to fear, instinctive docility, and sympathy; will is a distillation from automatic and instructive acts; personality is a patchwork quilt slowly pieced together by the process of memory. The literary style, which the touch of the translator has not marred, is charming, almost chatty, except now and then, when he steps aside to bolster up a few of his pet psychological dogmas that have been cherished companions from boyhood. The salient charm of Professor Compayré's treatment is his freedom from any radical extremism, giving the reader a sense of reposeful confidence in the author's good taste, sanity, and judgment. He ever keeps fairly in the middle of the road, and does not jar one's nerves by following out any side paths to their shocking extremes, however logical these extremes may be. He makes free and sympathetic use of biological data, but he is not forever holding up our monkey ancestry to public gaze, nor requiring us to analyze our children's innocent ways by wading out into the primordial swamps to trace analogies with slimy creeping things. On the other hand, while of course he must disagree with some of the old metaphysicians' conceptions, nevertheless he does so with that grace and courtesy native to a land where dueling is still in vogue. He was brought up in the atmosphere of deductive pilosophy, and he treats it kindly and ever tries to offer gentle compromises; as, for example, he insists upon spelling "will" with psychological capitals, despite the fact that his theory has left it a winnowed and graveless ghost, not essentially distinguishable from the chimera of the sensationalists and physiologists whose wanton extremism he so sadly deprecates.

The first chapter of the book, devoted to analysis of the educative instincts, is the weakest and the most unsatisfactory. Without the extended horizon which the later writers, Groos, Morgan, and others, have given to the subject of instinct, we find ourselves with Compayré trying to get at reality by juggling with definitions. He treats imitation and curiosity as "faculties"—entities having dynamic force. It is certainly very clear that these words are merely terms expressing specific conditions. When a child's nerve mechanism for saying "mamma" is sufficiently developed, and is set off by the

stimulus of hearing some other person say the word, we use the term "imitative" to describe the condition of these specific nerve tracts. But it is usually a year or more before the child can "imitate" his mother's drawing of a round face, because the nerve tracts involved are entirely different from those of speech. We use the word "imitation" as a general term descriptive of both conditions, but the two conditions are in no organic way related. Consequently, Compayré's first chapter, dealing with such questions as when imitation "begins," to what other similarly misconceived "faculties" it is related, have no real significance.

The chapter on judgment and reasoning which follows attempts to identify the processes of perception and even sensibility with those of reasoning, and so far as the organic processes are concerned Compayré will find few disputants, in these modern days, to the thesis.

The valuable chapters of the book are those which discuss the development of the moral sense, and the weak and strong points of character. These chapters represent sound and conservative views from the standpoint of modern science and psychology. Any parent or teacher will be made more intelligent in a practical way by carefully reading them. Compayré weeds out a good many of the popular superstitions concerning conscience, conviction of right and wrong, but goes to no extremes. In the end his practical method is identical with that which the best parents, by experience, have worked out. The child is born neither good nor bad, but he has inborn instincts. These instincts are not definite and complete, and while they give us guiding cleavings of character, they nevertheless give no justification for blindly following desire. There is room for coercion and also for reasoning together. In his closing chapters Compayré returns to his philosophic problems, especially those of the formation of the sense of selfhood. Yet his treatment is conservative and somewhat practical.

Out of the fierce theoretic disputes of the past quarter of a century concerning the relative importance of acquired and inborn powers, Compayré steps to express the ripened conclusion: "If one truth has been brought out by all our observa-

tions, it is that the child can do nothing without education. Contrary to Ribot, who says that education amounts to little in comparison with innate personality and heredity, we are convinced that the action of parents, and that the action of society, are very important, and that this explains, even more than does the action of Nature, the differences between intelligences and characters." It is the sane, wholesome conclusion expressive of the whole book.

After a student has had his blood heated and his imagination fired by Lombroso and other extremists of heredity, and on the other hand is shocked by the deadened practice of existing school systems, which do not conceive of the child mind except as Locke's *tabula rasa,* Compayré's book is a safe and quieting antidote to these intoxications. Altho the book was prepared before the child-study movement entered its active period, it is a good book to read after the first fever has passed. It will make neither for pessimism nor undue enthusiasm.

FREDERIC BURK

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Ancient history to the death of Charlemagne—By WILLIS MASON WEST, professor of history in the University of Minnesota. Boston: Allyn & Bacon, 1902. xlii., 564 p. $1.50.

Among the new text-books in history for secondary schools which are appearing in response to the demands of the report of the Committee of Seven, none are more radical in treatment and in the selection of material, or of a higher standard in historical method, than this.

This book is the first of a series of which the late Charles Kendall Adams was to be the general editor. The first two volumes were originally planned to give a general survey of the world's history, divided into ancient and modern. We hope that the later plan to have the second volume deal simply with "England, France, or Germany, or by intensive topic study," will be the one adopted. The present volume contains more material than can be successfully treated, by the method recommended and planned for, in an average first-year high-school class in one year.

The book has 550 pages. It contains an analytical table of contents intended to serve as a syllabus. This may prove misleading to the average high-school student, as regards the relative importance of topics and amount of detail necessary for each. Every section (650 in all) is represented in the outlines, making the synthetic side weak. Even if the larger headings are the only ones intended to be so used, some are so vague in meaning that it is still faulty from the standpoint of co-ordination. The text is divided into six parts: Oriental history; the Greeks; the Græco-Oriental world; Rome; the Roman empire, or Græco-Roman world; and Romano-Teutonic Europe.

The Oriental history, presented in the light of modern scientific investigation, has ample illustrations, and should arouse interest in the work now being carried on by archæologists. The matter of chronology is left in abeyance, while both the Aryan and Mediterranean race theories of origin and dispersion are briefly stated.

Professor West's aim to present the works of peace rather than those of war is well illustrated in the prominence given to certain topics in the Greek and Roman sections. Those receiving greatest attention are the age of Pericles, the diffusion of Hellenic culture, the later Roman republic, and the first three centuries of the Roman empire. The last is particularly well done, and will give the empire a new meaning to the secondary-school student, being presented by topics in disregard of the chronological succession of emperors and their life-adventures.

Wars are given the briefest possible mention, but their results are generally fully discussed. Professor West seems to have a particular grudge against the Peloponnesian War, as a "Summary of event and traits" is given in one paragraph (p. 194), while Alcibiades must be looked up and given in a "special report." Xerxes' march and the Retreat of the Ten Thousand are hardly mentioned. Leuctra is the only battle illustrated by diagram, and of Cannæ this is said: "The result was the battle of Cannæ, 'a carnival of cold steel, a butchery, not a battle.' Hannibal lost 6000 men: Rome 60,000 dead and 20,000 wounded" (p. 322).

This cutting out of detail is often more apparent than real, for ample references are given and the text is full of valuable quotations from the sources. Thus, while Professor West evidently appreciates the limitations of the source method in secondary schools, he at the same time forces both teacher and pupil to better preparation by wide reference work.

Will the schools provide the necessary reference works and in sufficient number? Can the requisite amount of time be given by pupils carrying the average first-year program, to do accurate and satisfactory special-report work? Will not this close adherence to reference reading discourage most first-year students? We suggest to those preparing such series that they approach the best methods more gradually and by natural progression.

Altho the pupils may find this book means heavy work for them, certainly the teachers will feel they owe Professor West a debt of gratitude. The bibliography, suggestions for reviews, drills, special reports, further reading for advanced students, and the index, which contains all the references for topical reviews, are most welcome.

The illustrations and maps are uniformly good. The lack of proper names and "important dates" will be a delight to pupils.

Romano-Teutonic Europe is just one part too many for such a book as this, in spite of the advice of the Committee of Seven. It cannot all be well done in one year. If we cut the reference work in order to "finish" the book, the students will have a superficial knowledge of ancient history in the form of vague generalizations. A text-book is only a text-book after all, and pupils cannot read as much into it as those who have a wider knowledge of the subject.

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X

NOTES AND NEWS

Mr. Sadler's American Impressions

The thoughtful and judicious paper by Mr. Sadler on his impressions of American education, which appears in this issue of the REVIEW, was received with marked favor by the audience to which it was addressed. One of those who listened to Mr. Sadler was an American, and he recorded his own impressions in a note printed in the *Educational news,* published at Edinburgh, for January 10, 1903, which journal also contained Mr. Sadler's address in full. The American auditor wrote as follows:

In the audience, which was thrilled by Mr. Sadler's fervid eloquence, there was one inconspicuous person, as keenly interested in education as any of the men present, altho he lacked and envied them their direct participation in the noblest calling under God. To this man the orator's words of inspiration came with a force and meaning which they could have for no others. Of Scotch descent, English birth, and American adoption, this auditor felt in all modesty that he probably knew more of the subject of the address than any of the other listeners. He believed that his Scotch ancestry, English upbringing, and years of residence in the United States gave him a capacity to appreciate at once the viewpoint of speaker and auditor and to weigh the justice of the verdict given, as could no one else among those privileged to be there. To this lone listener, made less lonely in a strange city by the cordial geniality of Scotch hospitality, one of the most wonderful features of Mr. Sadler's address—more wonderful, even, than the exquisite choice of language shown and the prophetic tones in which it was expressed—was the marvelous grasp of a complex subject which he displayed, the keen discrimination which must have been exercised in gathering the facts, and the open-minded fairness used in balancing those facts and observations, and so summing up that there should be a minimum of prejudice and a maximum of justice in the presentation of the case. If this American may be permitted a word or two of criticism of Mr. Sadler's address, he would sum it up thus, tho he realizes that he is only expressing his own opinions, and that even in so small a manner it is an audacious performance to oppose his opinions to those of so justly esteemed an authority.

1. Mr. Sadler, by his upbringing, seems hardly to do justice to the merits of a disciplinary system based on interest rather than on the more

drastic methods which are apt to waste energy and to degenerate into mere repression for repression's sake.

2. Mr. Sadler has some foundation for his criticism of the laxity of discipline in American homes, but not so much as he thinks. When he blames American parents for suffering or even encouraging their children to criticise their teachers, he must remember that there is a far keener interest in education among parents in America than in England,—probably greater even than that in Scotland,—and that his strictures are hardly borne out by the indisputable facts that there is, on the whole, much greater sympathy between teachers and parents in America than in the United Kingdom, and that teachers are far more respected there than here.

3. Mr. Sadler hardly laid sufficient emphasis on the incalculable value of that earnestness which characterizes American education, business, and life generally. It has the danger of running into narrowness of concentration, but the quality's value far outweighs its defects.

The Dual System of State Educational Control in New York

Greatly to the regret of everyone, and greatly to the disadvantage of the schools, the old-time friction between the two educational departments in New York State has again generated heat and a blaze before the legislature and the public. The ostensible cause for the present outbreak was a dispute between the two departments as to which should administer the proposed appropriation to pay the high-school tuition of non-resident pupils; the real cause is the fact that there are, illogically, expensively, and unnecessarily, two State educational departments instead of one. Similar disputes will arise from time to time just as long as the two departments are allowed to exist.

The EDUCATIONAL REVIEW expressed itself freely and emphatically upon this whole subject in 1899 and in 1900, when an admirable proposal to reduce the two departments to one was before the legislature. We thought then, and we think now, that narrow-mindedness, stubbornness, and selfishness combined to defeat a movement that was wholly in the public interest. We are still of opinion that a consolidation, or unification, of the two departments is absolutely essential to the proper conduct of the State's educational interests, and we are as little concerned now as we were then with the details of the scheme, provided only the main purpose is attained.

If a new State were being organized and the details of its ed-

ucational system were being worked out, it would be wise and proper to offer for adoption a logical and complete plan for the supervision of its schools and colleges. To do this in an old, complex, and highly organized community, on the other hand, is to invite disaster from the start, and to defeat the very end aimed at. Therefore, the first question to ask is, What is the least that needs to be done to reduce the two departments to one? We answer now, as we did in 1899 and in 1900: To transfer the existing Department of Public Instruction bodily to the jurisdiction of the Regents, retaining in office all existing officials, and providing for the choice of their successors by the Regents. The Regents are a constitutional body, and the desired unification is quite unattainable in any other way than this, and always has been so.

But, it will at once be said, if the Regents are to have this new power, they should be reorganized. That is certainly true, and it is admitted by Regents themselves. We shall be glad to hear that the Regents will propose, or will assent to, without opposition, a proper and non-political reorganization of their body in view of the new and wholly strange responsibilities that would be placed upon it under the terms of any possible plan for single State control of education. If, however, the Regents take another view and resist reorganization, and if their attitude seems likely to defeat unification, as it did before, then—rather than postpone unification to the Greek Kalends—we hope that Superintendent Skinner will take the large and unselfish view, and throw the weight of his influence for unification in any event. In such a case the real triumph would be his, together with the credit for having brought about a long-desired educational reform. It may also be assumed, we think, that if unification is once gained the reorganization of the Regents will follow rapidly, perhaps by unanimous consent.

The Regents have made public the following document:

To the Governor, the Legislature, and the Peoples of the State of New York:

Recent manifestations of the evils arising from the existing dual system of State supervision of public education and an earnest conviction of the duty to take and keep the schools out of politics have constrained the Regents of the University to advise and request that by suitable legislation

the exclusive power and duty of such supervision be committed to their board. Their unbroken record for more than a century shows that they have not been eager for enlarged powers, and that, in the words of Governor Odell's unsought but prized encomium, they have been "absolutely without partisanship and actuated by the highest motives and the purest sentiment."

The supreme importance of the cause of public education and the wrong of leaving it exposed to the danger of partisan control need neither stating nor urging; and it must be plain that educational interests will be promoted when such unified supervision removes that danger and abolishes hurtful and unhappily frequent contentions between the present two departments. Respectfully submitted,

WILLIAM CROSWELL DOANE, Chancellor; WHITELAW REID, Vice-Chancellor; CHAUNCEY M. DEPEW, WILLIAM H. WATSON, HENRY E. TURNER, ST. CLAIR MCKELWAY, DANIEL BEACH, CARROLL E. SMITH, PLINY T. SEXTON, T. GUILFORD SMITH, LEWIS A. STIMSON, ALBERT VANDER VEER, CHESTER S. LORD, THOMAS A. HENDRICK, WILLIAM NOTTINGHAM, CHARLES A. GARDINER.

February 12, 1903.

The arrangements for the Boston Meeting of the National Educational Association are proceeding effectively and rapidly, and an announcement of the detailed program will shortly be made.

By the untimely death of Edward R. Shaw, the real founder and inspirer of the work in education done for years past at New York University, American education loses a devoted and unselfish representative.

Dr. Shaw had but just accepted an election to the Superintendency of Schools at Rochester, N. Y., and a new period of useful service seemed to be opening before him.

EDUCATIONAL REVIEW

APRIL, 1903

I

MORAL EDUCATION IN PUBLIC SCHOOLS[1]

Two convictions, firmly imbedded in the American mind, are to-day the source of our greatest strength and our deepest perplexity. Those convictions, which underlie and explain our history, are: the necessity of educating the entire people, and the necessity of the absolute independence of Church and state. If we could surrender either of these primary principles our path would be easy. But maintaining, as we do, that the state must superintend education in order to make it universal, maintaining at the same time that the state cannot hold, much less teach, an official religion, we have allowed our schools to pay small attention to character and to devote themselves to purely mental development. We have shown a fairly idolatrous devotion to the three R's —the American educational trinity—and have passed over justice, mercy, and truth. We have whetted the intelligence of our children, but have often ignored the affections, the conscience, the imagination, and the will. Now a wave of protest is sweeping over the country, a protest that is potent because it comes from those who accept and glory in the fundamental principles of our government. What can Americans do in the face of this problem? Is the "truce of the sects" sapping the foundations of character? How can we prevent the ecclesiastical neutrality of the school from producing moral indifferentism in the pupils?

[1] An address delivered before the Twentieth Century Club, Boston, Mass., January 31, 1903.

We certainly cannot leave the education of the children of the Republic to the benevolent impulses of individuals and voluntary societies. This would mean for the mass of the people no education at all. No modern state would dream of such neglect of its own future. Hundreds of thousands of children are not under the care of any church, and would be left to grow up in ignorance. Some Christian sects are lukewarm in education, or frankly hostile to learning. Some are too poor to provide respectable schools, and all of them are weighted to-day with heavy financial burdens. Moreover, it would be as reasonable to leave all sanitary regulations, all inspection of buildings or of food and water, to spasmodic private virtue as to leave the training of the new generation to the varying impulses, slender resources, and diverse opinions of individuals and associations. Intelligence in a democracy is quite as vital as good health. In an absolute monarchy, universal education is not necessary, and may only produce popular discontent. Under a feudal constitution of society it is not necessary, since there the few may think and act for all. But the safety of the people is the supreme law, and in a democracy safety is intelligence. The functions of government are likely to be extended, not curtailed, in the next fifty years. When municipalities are providing public parks, recreation piers, free dispensaries, free libraries; when the state is regulating hours of labor, rates of transportation, the age of employees, and the conditions of healthful employment, it is not credible that either state or city will leave the most vital of all tasks to the intermittent sympathy or capricious schemes of private enterprise.

Moreover, such surrender by the state of its most important function would mean such miseducation as to result in the disintegration of society. If the time ever comes in America when each nationality shall educate in its own language, each class in society have its own class schools, and each denomination educate apart from all others, we shall be making obvious preparation for disunion and disruption. But now the school is for our immigrant population our great digestive and assimilating organ. In the fact that the

children of Augusta, Jacksonville, Galveston, and Seattle use essentially the same text-books, pursue the same methods, and breathe the same psychological atmosphere from five to fifteen years of age, lies the greatest unifying force of the nation. It is a common method of approach to life, a common political tradition, a common love of liberty and law, a common social ideal which constitute what we significantly call the common school. No combinations of capital, no union of workmen in a "labor-trust" can hold together eighty millions of people of diverse origin, scattered over a vast continent. Unity in the *Lebensanschauung*, in the attitude toward life, personal and social, must precede unity in action. If our school system disintegrates, our states will soon be "dissevered, discordant, belligerent."

It is equally clear that we cannot allow in this country any control of religious instruction by the state. The most valuable contribution of America to the modern world is our successful demonstration of the blessings of "soul-liberty." Other nations are following us, but as yet afar off. Protestant, Catholic, and Jew are here united in prizing and defending freedom of conscience as enunciated first in America by Roger Williams, and since his day established in most of our state constitutions. This freedom was not achieved in a day. It has been wrought out by three centuries of toil and conflict. With a great sum we obtained this freedom. It was not wanted by the early settlers of Virginia when they forbade the entrance of any ministers "but such as were ordained by some bishop in England." It was not permitted in Pennsylvania, which, in spite of William Penn, excluded from office all Roman Catholics, Deists, and Jews. It was not wanted in Delaware, which demanded of every office-holder a profession of faith in the doctrine of the Trinity. It was not at first permitted in New England, where the established order of Massachusetts lasted until 1833. It was achieved slowly and painfully as the logical outcome of the principles our fathers held dear, as the inevitable result of the impulses that brought them to our shores, as the result of a deeper study of political theory and of the Christian re-

ligion. By the time the Federal Union was formed the demand for freedom had become so strong and clear that in the Federal Constitution all religious tests for public office were prohibited, and the first amendment of the Constitution incorporated the result of one hundred and fifty years of struggle into the fundamental law: "Congress shall make no law respecting an establishment of religion or prohibiting the free exercise thereof." We their children must forever maintain what the fathers worked so long and hard to win. By bitter experience they learned that the support of religion by the state involves the control of religion by the state. The power that upholds is the power that governs. Massachusetts above all the other colonies invoked from the beginning the support of the secular arm; and in the early part of the nineteenth century the children of the Puritans were ejected from their houses of worship by the very enginery which they had constructed for their sure defense. Having appealed unto Cæsar, unto Cæsar they were compelled to go; with such results that no church in the commonwealth now wants anything of the government save to stand out of its sunlight.

But we have dwelt long enough in the region of negations. If we cannot allow governmental neglect of education, nor governmental oversight of religion, what can we do thru our schools for the molding of character, the training of citizens, the making of men?

We can realize and remember that all good education is education in goodness; all right training is training in doing right. Mathematics as an abstract science is not supposed to furnish special facilities for character-building. Yet the boy who goes to the blackboard to demonstrate a theorem in geometry may exhibit most of the cardinal virtues, or he may fall a victim to the seven deadly sins. His attitude toward that problem is part of his attitude toward life. If he is shifty, cowardly, evasive, superficial at the blackboard, he is preparing for shiftiness, cowardice, evasion, and superficiality in commerce, politics, or religion. We cannot select out of the boy a supposed "mind" and educate that, leaving

will and conscience untouched. It is the whole boy we work at, or nothing. If the process we put his thru is not a moral process, it is immoral and lamentable.

So in language, a slovenly and befogged nature manifests itself in a slovenly and foggy method of study, and a bad method tends to make a bad man. There is no better training in the love of accuracy, attention to detail, fineness of discrimination in shades of thought, and honesty in expression, than the old classical drill. But these things are as truly moral qualities as mental achievements.

In the most elementary study of science, loyalty to fact, patient investigation, abstinence from hasty conclusion, candor and modesty, willingness to be corrected by the larger knowledge of coming years—these things are taught at the outset of the work, and these things are the warp and woof of frank and honorable character. In manual training the learning of the difference between a joint that fits exactly and one that does not has brought many a boy face to face with the relentlessness of facts. In military drill, Kipling has memorably described the ordeal of the raw recruit as he is knocked about until he learns "to keep his rifle and himself jus' so."

But one may say: "All this instruction is only indirect." Precisely; and therefore most effective. Merely to state that some things are good and some are bad, and require students to believe the statement and recite it is surely barren dogmatism. What they need is to *feel* the goodness and beauty of some deeds, and to *feel* the debasement and defilement of others. They do not need to be furnished with a set of moral lectures. Our platitudes are generally useless, and often resented. Pupils must glow with enthusiasm in the presence of the heroic and patriotic; they must shrink instinctively from the mean and treacherous. The teaching of boys and girls must be concrete and vivid. They have no business to discuss in the grade schools the foundations of virtue. But they must see and feel the virtuous man, the hero, the statesman, the philanthropist—Washington, Webster, George Peabody. History is more than philosophy teaching

by example; it is ethics teaching without a placard. "It is," says Froude, "the voice of God forever sounding across the centuries the laws of right and wrong." To let that voice be heard, with or without the theistic inference, is the best possible moral instruction.

This indirect method, moreover, applies not only to study, but to athletics, to school organizations, and to all social intercourse. A graduate of one of our oldest colleges affirms that the greatest advantage derived from his college course was the habit of lifelong punctuality which came from being deputed to ring the college bell six times a day for four years. Every honorable athletic contest is developing the love of fair play, the spirt of fidelity to one's friends and chivalry to one's foes, the power of social coherence and co-operation, the ability to obey and to command, far more efficiently than the memorizing of any catechism could teach these things.

And in the inculcation of these fundamental requisites of life there is happily no dispute among us. Agnostic and prelate are agreed that without such virtues our society cannot endure. That righteousness tendeth to life is not and never can be sectarian instruction. Here is a vast field where no divergence of view can prevent faithful sowing and abundant harvest. Regarding the counsels of perfection we may differ widely. The virtues of the saints, the value of penitential discipline, the problems of casuistry may separate us. But concerning the virtues which are the daily bread of the moral life there is no dispute. Concerning the great industrial virtues which lie to-day at the foundation of our material progress there can be no debate. Concerning the domestic virtues which constitute the home, we are not far apart. Concerning the duties of statesmen, we usually agree. We repudiate Machiavelli, we honor Henry Wheaton, we rejoice in The Hague tribunal, without regard to religious affiliation. The sacredness of promises, the results of falsehood and treachery, the folly of deceit, the obligations of friendship, the self-contempt which follows the betrayal of trust, the social consequences of the adulteration of goods, the re-

sponsiblity of the consumer, the wrong of cheating in examinations, the self-loathing of the licentious soul, the need of courage and faith in public servants, the possibility of high ideals in politics, the results of civic pride and municipal devotion, the use of wealth in relieving distress, the duty of kindness to animals, the duty of temperance—illustrated not by charts of diseased organs, but by pictures of soldiers, statesmen, and athletes who have found temperance indispensable to efficiency—the need of thrift and economy and industry, the sure reward of promptness, accuracy, intelligence,—these are the stuff of which virtuous citizens, faithful laborers, true men and women are made; and these can be taught—these or their opposites are taught—in every school in America.

But here we are met by the assertion that clear as these duties and admirable as these virtues are, they require for their enforcement the sanctions of religion. We are told that apart from definite religious teaching the imperativeness of the moral law will never be felt, and that unless we inculcate faith in God, immortality, and a judgment to come (many would add the doctrines of the Incarnation, the inspiration of the Scriptures, and the Sacraments) our moral teaching will be merely colorless advice, powerless to sway the will or fashion the life. Hence it is claimed that our public schools must provide in some way for dogmatic instruction by ministers of religion or by teachers whom they approve. Our answer to these assertions is a frank denial, and these claims we are compelled to repudiate.

If religious dogma is to be taught in our schools, which dogma shall it be—that of Cardinal Manning or James Martineau, that of Channing or Bushnell? If theology is to precede morals, shall be the theology of the Ritualist or the Evangelical, Princeton or Andover, Meadville or Northfield? If children must be instructed in doctrine before they can be educated morally, shall it be the doctrine of Ballington Booth or Cardinal Gibbons, each of whom has an equal claim as an American citizen? If we say: "Teach only the fundamental doctrines in which the churches agree," we shall utterly fail

to satisfy the churches, and we shall have a mere residuum of belief, a creed reduced to its lowest terms, an eviscerated abstraction of religion. The points of difference among the churches are often the points which the churches most desire to have taught. Undogmatic religious teaching is a chimera.

Moreover, it is for the sake of religion itself that we object to its teaching by officers of the state. In Germany this system of state instruction in religion is carried out with characteristic vigor and rigor. About one hour a day is devoted in every school to definite religious teaching, and vast attention is paid to the preparation of the text-books and teachers. But the results are dubious. As Professor Kirchner of Berlin says: "A surfeit of religious doctrines, maxims, hymns, forms, ceremonies, prayers, as experience proves, often produces a result precisely opposite to the one intended." Such instruction may be likened to the heaping of fuel in large masses; but it leaves the soul cold and unlighted. The touch of flame must come from elsewhere. Teachers who themselves do not feel the power of religious conviction cannot be trusted to enforce such conviction on others. The children suspect their sincerity, and the teachers become hirelings. Such instruction would be in this country a hindrance to religion, especially since our conception of religion is more subjective than that of Europe. We concieve it as an experience, an attitude, a life; whereas Europe largely conceives it as a cultus, a ritual, a something to be carved in stone, or painted in fresco, dispensed or withdrawn by ecclesiastcal decree.

We need also to remember that what is logically first may be practically last. While doctrine may be logically and theologically anterior to duty, practically children learn to do right before they can discuss the basis of right. Just as navigation is possible under the Copernican or the Ptolemaic system, so mercy and truth are possible under a defective or even a false theology. If we wait for theological unity to precede instruction in moral verity, we shall wait forever. Theoretically it is, of course, impossible to expound any sub-

ject without involving one's self in philosophy. Chemistry leads us at once to the question of the ultimate constitution of matter, and the atom and the ether are metaphysical conceptions. Astronomy was to Kepler a "thinking of God's thoughts after him." Biology conducts us at once to the problem of the origin of life, and every science is rooted in philosophy. Yet we do not teach philosophy before we teach science, but quite the reverse. Metaphysics come after physics in the education of humanity, and should come after physics in the education of the individual, who is the epitome of the race. Men who differ widely on the question of the freedom of the will may be at one in the inculcation of human duty.

If we ask why it was the duty of Admiral Dewey to sail into Manila Bay in the dusk of that May morning, we may receive several answers. There is the answer of the soldier, that it was the Admiral's duty because he had been so commanded by his superior at Washington. There is the answer of the Kantian, that the Admiral was obeying the categorical imperative and it was his not to reason why. There is the answer of the Hedonist, that after all the Admiral, like all other men, was drawn in the direction of his own greatest happiness. There is the anwer of the Utilitarian, that the Admiral was seeking the good of the greatest number. But these answers differ only in their reasons, not in their view of Dewey's duty. Men of the greatest divergence of view in philosophy and religion are agreed in the essential virtues of humanity. It is entirely possible and practicable to draw up a moral code which shall be acceptable to Edward Everett Hale, to Felix Adler, to President Patton, and to Archbishop Ireland. These men, so far apart in cosmic philosophy and theological theory, are at one concerning the "primal duties which shine aloft like stars"; and their agreement does not spring from indifference, but from the very intensity of moral passion, which will not allow the great essentials of the moral life to be obscured by the mutations of moral theory. John Milton and Thomas H. Huxley are not in all their teachings of the same mind. But when Milton writes: "I call that a

complete and generous education which enables a man to perform wisely, justly, and magnanimously all the offices both public and private, of peace and of war;" and Mr. Huxley, in his equally famous definition, pictures a man "whose passions are trained to come to heel by a vigorous will, the servant of a tender conscience; who has learned to love all beauty, whether of nature or of art, to hate all vileness, and to respect others as himself,"—we find no essential divergence as to the morally fit to survive.

If, therefore, our schools, because of religious diversity, have lapsed into moral neutrality, they must be recalled to their duty by urgent and united effort. Granted that we cannot support in them the duty of common honesty by appealing to an infallible Bible, or an infallible church, does it follow that we must neglect all the natural sanctions of morality? These natural sanctions are conspicuous, and universal, and are powerfully set forth in science, history, psychology, and literature. They are revealed on every page of modern physiology, and a college graduate recently said: "I never understood the meaning of the moral law until I studied medicine." Modern psychology has given us a powerful sanction in its exposition of the relation of will to idea; while the chapter on "Habit" in Professor James' *Psychology* has been preached from a thousand pulpits. The economic history of England and America is the best possible condemnation of child labor or of slavery. English literature will never fail in moral appeal while it contains Wordsworth's "Ode to Duty" or Lincoln's "Gettysburg Address." In no age has God left himself without witness. He has given us not only "rain and fruitful seasons"; he has given us in the great monuments of literature, in the discoveries of physical science, in the teachings of history and economics, voices that in clearest accent summon us to duty. To close the Bible is not to silence conscience. To shut the churches is not to veil the starry heavens above, or the moral law within. If there can be no effective morality apart from Christian sanctions, how comes it that the pre-Christian penitential psalms are still the best utterance of Christian confession, and

the Decalog, whose horizon is bounded by the "days in the land which the Lord thy God giveth thee," is still our Christian summary of the whole duty of man?

Indeed, all the rewards and punishments of a future state are effective in education only as they are seen to be, not arbitrary inflictions by external power, but the clear and inevitable outworking of universal law. This truth Dante perceived when he made the victims of anger in Purgatory to be plunged in blinding smoke, and the lustful to dwell amid devouring flames. To ignore the natural sanctions of morality is to make the supernatural ones incredible, while to exhibit the psychological and social sequences of character is to lay the strongest possible basis for distinctively Christian teaching.

We must, then, in this matter of moral instruction, *get together*. Protestant, Catholic, Jew, and Agnostic must insist that what they all hold as fundamental shall not be ignored. The interests at stake in the Republic are too vast for us to stand asunder. Common sense demands that we shall not spend our strength in small disputes. We must criticise by creation. No citizen may justly criticise the public schools unless he is steadily striving to make them more efficient. Any institution which represents the whole people must be the result of generous concession, hospitality to facts, and fairness of mind. To use the schools as a means of sectarian propaganda would in the end seriously damage the church thus using them. We must frankly reconcile ourselves to the fact that the decrees of the Vatican Council and the Westminster Confession can never be taught in schools supported by the taxation of the entire people. There are some Protestants who do not bewail the impossibility of inculcating the Westminster Confession, and many Catholics who hold that training in justice, reverence, honor, and truth cannot hinder, but must help, the Church in its specific work. The objection that such schools are godless applies equally well to all the institutions of the state. In the same sense the public library is godless because it does not hold morning prayers; the post-office is godless because it publishes no

creed; and the constitution is godless because it does not invoke the Christian God. Those who take this position will not be satisfied with any small concession. They will follow up one demand with another until they require the official support of their own religious faith by the government, *i. e.*, an entire union of Church and state. But this can never be in America.

We need—let us repeat it—the spirit of fairness and common sense. We do not ask for the complete secularization of the schools. This would mean a refusal to recognize religion as a fact in human life. The secularist would demand the abolition of all chaplains supported by the state, the abolition of all prayers in Congress (possibly we could survive that loss) and the erasure of "In God we trust" from every coin. Carried a little farther, this logic would demand that we cease to date public documents from the birth of Christ. It would banish from our schools the *Paradise Lost* because of its Puritan doctrine, or Whittier's lyrics because of his faith in the Eternal Goodness. But these are not the demands of intelligence. They are the utterance of the latest and smallest sectarianism.

In many schools Christmas carols are sung every December, and there are no Hebrew children to object. In a pronouncedly Hebrew neighborhood such procedure might be unwise and unjust. In most schools the King James version of the Bible is read, and there is small objection. Where offense is taken, the Douay version might be occasionally used, or the reading as an act of worship might be discontinued. These problems cannot be solved in a day. But fairness of temper, the endeavor to understand opposing views and make allowance for hereditary bias, above all the sincere desire never to coerce faith by the secular arm, will lead us step by step to a permanent solution. As a true Protestant, I want every Catholic and every Hebrew to be free from any taxation in support of my religious faith, and from every impediment to the inculcation of his own faith in the mind and heart of his own children; and I hope and believe there are multitudes of Hebrews and Roman Catholics who

would decline to tax Protestants for the support of Hebrew or Catholic teaching and worship.

But we shall fail to give the best moral instruction if we entirely banish the Bible from the public schools. The morality of Europe and America has for centuries found its chief nourishment in the library of sixty-six books that we call the Bible. Where it may be unjust to read these books as an act of public worship, it is still right and indispensable to use selections from these books as literature, and as the best possible nutriment for the moral nature. A crude theory of inspiration, or a peculiar reverence for tradition, has hitherto hindered us from using the Bible as it was used in the first three centuries, in separate portions, and has compelled us, if we would give children the Sermon on the Mount, or the Twenty-third Psalm, to spread before them also the slaughters of the Canaanites, and those chapters of Paul which Peter found "hard to be understood." But every school in Germany has its book of selections from the Bible to be used in moral instruction, and every school in the United States should have the same thing. There is no material for character building like the biographies of the Old Testament, the Psalms in the old Hebrew hymn book, the pithy proverbs of the wise men of Israel, the splendid survey of creation in the book of Job, the parables of Jesus, or Paul's praise of love in the first letter to the church in Corinth. It is incredible that the children in every high school should be made familiar with the pranks of pagan deities, and the dubious moralities of Olympus, and yet be forbidden to read the Sermon on the Mount because it happens to be printed in a book which Christians revere. The Bible, or, rather, such portions of it as deal with fundamental morality, must come back into the public school. It must not be smuggled in stealthily at the back door; it must come in at the front door, and be received with at least as much honor as the *Æneid* or the *Iliad*. How long will we as a people endure a situation which requires the reading of Ovid and forbids the reading of the Fifty-first Psalm? How long will we require full exposition of the religion of Greece and Rome, and forbid

any allusion to the Bible, on the ground that it is part of the religion of America? Granted that we cannot and should not use the Bible in any public school as a rule of faith and practice, it does not follow that we can use no part of it as the food of character. If we can draw moral teaching from the lives of Napoleon and Bismarck, we surely can draw it from the stories of David and Samuel. If we use the maxims of Epictetus and Lord Chesterfield, we can surely find some help in the proverbs of Solomon. We ask that the public schools shall not in their hypersensitiveness discriminate against the Bible, and make it the only book in the world which is excluded by law from the education of our children. If a clergyman enters a public school he goes there not as a minister of religion, but as a citizen. When the Bible, or some portion of it, enters the public school, in any version the people may desire, it comes not as a supernatural revelation, but as the essential nutriment of character—a book dear to Jefferson and Franklin and Lincoln as well as to Horace Bushnell and Phillips Brooks. If Christians consent, out of fatuous fastidiousness, to banish all parts of the Christian Scriptures from the public school, they will probably live to see them brought back again by the disciples of Herbert Spencer and Frederick Harrison. Whatever literature is lofty in its ethics, and noble in its simplicity, whether written in Persia, Palestine, or Athens, is useful for the making of men; and such literature is none the worse if it came from the martyrs, apostles, and prophets of the Christian faith.

We need also to devote more time and thought than have hitherto been given to the question of the preparation and use of text-books in elementary ethics. Such books are often disparaged by those who are weary of text-books in general, or who fear that these books involve the infliction of ethical theory on young children. For the earlier grades the teacher is indeed the best possible text-book. The power of a generous, upright, candid soul is greater than that of all printed codes or admonitions. By oral instruction and example the youngest children can best learn their duties to one another,

to parents, to city, and to native land. But the experiments made in France during the last twenty years to provide a series of text-books for the teaching of elementary morals deserve our serious study.[2] Many of the leaders of French thought have deemed the preparation of such books a worthy task. Paul Janet, Henry Greville, G. Compayré, and Jules Simon have bent their energies to this work. The result is a considerable number of books of varying quality, but used thruout the country, and a large amount of time in every school actually given to the consideration of personal and social duty.

It is interesting to note that Japan is vigorously prescribing the same kind of instruction in its own public schools. The present minister of instruction, Dr. Kikuchi, has carefully outlined a graded course of teaching in the primal duties of man, which, as reported by Professor E. W. Clement of Tokyo, is of great interest. "The first and second year students are to be instructed in such subjects as Duties of students as such, Personal health, The spirit in which to take up studies, Conduct toward others, Every day life, Life at home, Conduct toward the state . . . The third and fourth year students are to be instructed in . . . Personal standing of others; Life, property, and reputation of others; Secrets, promises, etc., Duties to benefactors, friends, the young and the old, the high and the low, master and servant, the female sex." It is easy, of course, to predict that such instruction will produce a crop of infantile casuists and prigs. But somewhere and somehow children must be taught to think of the moral quality of action, and such teaching deserves a place in the public school. Gradually, amid many blunders, we shall find a way to secure this, and to make it effective.

But above all we can insist that the home and the church shall not attempt to shift upon the school their own responsibility for moral training. The school will surely break down if it is compelled to assume the work of the home and the church, and is held responsible for all the evils that afflict

[2] EDUCATIONAL REVIEW, April, 1902. *Moral and religious instruction in France*, by Jean Charlemagne Biacq.

society. In this connection we are happy to quote Rev. Thomas Bouquillon, D. D., formerly Professor of Moral Theology at the Catholic University of America, in Washington: "Education: to whom does it belong? . . . It belongs to the individual—physical or moral—to the family, to the state, to the church; to none of these solely and exclusively, but to all four combined in harmonious working, for the reason that man is not an isolated, but a social, being." This truly Catholic utterance we heartily indorse. When disorganized homes and anæmic churches leave the training of children to the public schools, the burden is too great to be borne. A serious decline in American home life has been caused by the inroads of luxury, the impulse to wander over the earth in search of perpetual spring, and the adoption of a daily household program for parents in which the children cannot share. When the family spend four months of the year at great winter caravansaries, and most of the summer amid the whirl of fashionable shore resorts, the mental and moral education of children is not easy. Where "luxury and alimony" are the rule, the rearing of offspring seems an impediment to legitimate enjoyment, and the responsibility for their training is eagerly relegated to private and public schools, which are no substitute for the Christian home.

The school can never replace the church in its pastoral sympathy, its eternal sanctions, or its molding power. It can never replace the home in its early opportunity, its continuous pressure, its tenderness and affection. The state, the home, the church, the school—this is the great quadrilateral of powers that can together give long life to humanity, and establish the kingdom of truth on earth. Each must co-operate with all the others in transmuting knowledge into character, in training men and women who shall be leaders of their generation in truth and righteousness.

W. H. P. Faunce

Brown University,
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II

DIFFERENTIATION IN THE HIGHER EDUCATION OF WOMEN

Among the surprising educational results of the last fifty years is the fact that numerically, at least, women have become the chief bearers of culture. In the American high school there are about three young women to every young man, most of them devoting their time mainly to languages. In the colleges and universities women are fast coming to equal men in numbers, and far to surpass them in devotion to English, French, German, Latin, Greek, and history. So striking is this fact in some portions of the United States that one university at least has limited the number of women it will receive, while another hopes to prevent what it calls the feminization of its arts courses by the segregation of women students. Parallel with this rapid increase in the number of women devoting themselves almost exclusively to the humanities we have a correspondingly rapid increase in the number of young men who are devoting themselves to the applied arts and sciences. Should higher education for men devote all its attention to the humanities and the pure sciences, it would soon produce in this country an educated proletariat more notable than that which Bismarck attributed to Germany.

The effects of the differentiation of men's education and the corresponding lack of differentiation in women's education, together with the rapid increase in the number of women going to higher institutions of learning, are likely to be seen in a number of ways. For instance, if women flock in increasing numbers to the universities, as they are sure to do, and continue to make languages and allied subjects their chief occupation, as under present circumstances they are likely to do, and if the education of men continues to

differentiate, the A. B. degree will go to all college women, and to the few men only who expect to teach the humanities or who pursue them for society purposes. In other words, it will become substantially a woman's degree. This may perhaps be well, but it will also be new.

In the next place, the high school is coming more and more under the influence of woman teachers, and, what is of more consequence, it is coming more and more under the influence of those subjective ideals of life and education that arise from exclusive devotion to literary subjects. It is not so much what high school lads study that engrosses their minds and holds them in school as the spirit in which these branches are taught. Restless, ambitious young men will incline to exchange as soon as possible an atmosphere of subjectivity and of sentiment, however noble, for one of stirring and vigorous activity. It is real situations that hold their interest and command their respect. It is possible for the school to create just such an atmosphere when women are the teachers, but hardly when the teachers are women of only one type of education, and that type largely subjective. It may be surprising to hear the opinion expressed that the exclusive devotion of teachers to what is regarded by many as the best form of education can hurt the high school, but is it not conceivable that one form of training, like one article of diet, however excellent, may fail to produce the best results?

Again, when women go exclusively into the arts courses at college, they enter into too sharp a competition with one another in the chief gainful occupation they are prepared to follow; namely, teaching. Many a high-school woman teacher is being displaced by her own pupils who have gone thru college, and who are willing to teach for half the salary the older teacher is receiving. An instance is told of a displaced teacher whose salary was taken to pay the three young college women who were employed in her stead.

The American university is, for men, a cross between the English system, which confines higher education to general culture, and the German system, which confines it substantially to professional training. President Hadley expresses the

opinion that the combination of the two systems is better than either of the others alone. Yet many complaints are uttered that tho the two are in juxtaposition they are not united, since the professional students do not as a rule pursue the arts courses to an adequate extent. This objection, however, does not remove the fact that higher education for men is widely differentiated in the American university because of its professional schools. Even the arts course is made professional by men who are preparing to be teachers.

For women, however, the English system holds almost absolutely. One young woman in Cornell is now studying five languages, while scarcely any women students ever stray beyond the purely culture courses. Occasionally one is found in law or architecture, while a few study medicine; but these are exceptions. For woman as a whole the modern higher education offers no such wealth of opportunity outside the languages and pure sciences as is provided for men. It may be freely granted that it was at first enough for women to compete with men in one department alone, but surely the advocates of equal opportunity for men and women can not rest satisfied with one type of education for women while many types are freely offered to men.

In general, it may be said that those occupations of women as of men which promote worthy personal or social welfare and which rest upon the bodies of pure arts and sciences that constitute the culture courses are worthy of professional study.

Whether women should in the university carry over the study of the pure arts and sciences into the applied arts and sciences may perhaps be a debatable question. However, even if the function of women were limited to the rearing of children, the arguments of Herbert Spencer for a knowledge of applied science, tho formulated over forty years ago, have not lost their validity. But there are many other forms of activity for women, for many of which professional training would be an advantage. These may pertain to the home and family, to gainful occupations, or to the larger social service. Some women want to earn a livelihood, most women are

vitally interested in the thrift, comfort, and health of the family, while all women would, if they knew how, contribute to the welfare of the community of which they are members and the country of which they are citizens.

In the first place, why should the fine arts taught in the university remain in their museum stage? Why should they not be used for enhancing personal adornment in dress, for the artistic decoration of the home, for landscape gardening, for increasing the value of factory products; in short, why should they not be reflected in private life, and form the sure basis for artistic improvement in manufacture?

Again, why should occupation in the applied arts be limited to persons who base their artistic training upon elementary education? These callings need the intelligent guidance that can come alone from the highest artistic training, for rule of thumb in applied fine arts is no more excellent than it is in engineering. Many women have taste and ability for commercial enterprises. Shall the measure of their possible preparation for such work be the brief and inadequate training afforded even by the best of our secondary schools of commerce? Is her field to be circumscribed to stenography and bookkeeping? Ought not the university to extend to her, and to men also, a professional training in the applications of science, language, and economics to this realm of human endeavor? Not a few bread-winning occupations depend upon a skillful application of the natural sciences. This has long been true with men. Examples may readily be cited. A young man who graduated ten years ago from Swarthmore College in the science course is now receiving a salary of twelve thousand dollars a year because he is an expert in applied chemistry. A New England college woman who had studied and taught chemistry concluded to make a business application of her knowledge. She studied the art of bread-making, and when this had been mastered, she set up a scientific bakery in her own town. Soon the fame of her bread spread to the neighboring city of Cambridge, whither she soon removed her establishment. The demand for her product soon taxed her power to produce. Her bread now goes to Boston,

and she is invited to establish similar bakeries in neighboring cities. Almost every domestic art has like possibilities, and awaits alike the transforming hand of applied science.

Not all professional knowledge needs to be turned to personal financial account. Much of this knowledge is of the greatest social value. One who understands from scientific study the chemistry and the adulteration of foods can render the highest social service to the communtiy, for she can lift that community to a distinctly higher plane of living. One who has mastered the applied science of hygiene is in a similar position, both as regards her family and the neighborhood in which she lives. Her knowledge will apply to water-supply, drainage, plumbing, the sanitary condition of schools, and the care of the sick. Thru such enlightened intelligence human life will be rendered happier and longer.

Every applied art or science has had its period of struggle for university recognition. Once nobody thought there was anything to teach in agriculture. Thirty years ago it was hard to find a position for a young man trained in an engineering school; many still think there is nothing to do for a teacher but to teach him his subject-matter. The professions of law, medicine, and theology are older and better established, as regards the need of professional training, yet many can remember when it was thought sufficient for the young man to study in a lawyer's or a doctor's office. The opposition that professional training for men has encountered will naturally be met with in the case of women, but the triumphant vindication of the one awaits the efforts of the other.

Once all applied arts were learned by imitation thru apprenticeship; now the leaders of all great occupations need professional training in institutions of higher learning. The same is true of women. The occupations that now engross them or to which they might profitably turn their attention are at present learned empirically.

Among the branches of applied arts and sciences for women that the university might provide for, the following are suggested:

1. Interior decoration as a branch of architecture.

2. Artistic design as a basis for dressmaking, tailoring, millinery, lace making, textile industries, and the like.

3. Painting, modeling, and wood carving.

4. Music, vocal and instrumental, based on a broad, liberal culture in language, history of art, mathematics, and the like.

5. Domestic science, including the chemistry of foods and household economy.

6. Commercial science, as based upon natural science, economics, history, ethnology, and language.

7. Hygiene, personal, house and public, as based upon physiology and bacteriology, and the sciences of sanitation.[1]

All of the courses here mentioned are represented in institutions of secondary grade, but they need to be elevated to the rank of university professional instruction. Many of these proficiencies may easily lead to artistic callings having the possibilities of large financial returns, and all of them. without exception, are capable of greatly enhancing the comfort and value of life. Intimately and firmly united as they are to the pure arts and sciences that constitute the subject-matter of culture, they form a more perfect blending of English and German systems in the higher education for women than does the present state of academic and professional training for men.

Is it after all worth doing? Is not teaching, being in the popular view a prelude to marriage, the only suitable profession for a woman? Is not general culture alone best for women who marry, as well as for those who do not? Will not culture perish unless all college women devote themselves to it? Would it not be lowering to womanhood to study the applied arts and sciences?

In the first place, all such courses would in the nature of the case be elective, so that no one would be required to study distasteful subjects. In the next place, teaching is not a prelude to marriage; it is rather the novitiate to a new sisterhood. Probably not twenty-five per cent. of the college women who go into teaching ever marry; and it is certain

[1] Compare the new courses in household economics at Brown University.

that not ten per cent. of those who spend their lives in the schoolroom ever obtain money enough to secure in abundance the ordinary comforts of life. Whoever heard of a woman buying a house with her own earnings as a teacher? This woeful condition is made permanent by the fact that college women who want to earn their own living are professionally prepared for teaching alone. Again, culture is not in danger of extinction. The ever improving high school will save it to the masses, while professional scholars will transmit it to future generations.

Some may oppose courses for women on the ground that sex should not be recognized in education. But under present conditions it is most emphatically recognized, since the higher education of men is outstripping a hundredfold that of women in variety and practical usefulness. Do the leaders of women's education desire to make women more independent respecting gainful occupation? The reply is that higher education does not at present have this effect, since it prepares them professionally for teaching alone, thereby making it impossible except in the rare cases where legislation fixes wages for any to gain a real competence. Is the aim of woman's higher education to raise to the highest degree her usefulness in the community? Even this noble purpose is now but partially realized. Poetry is good as far as it goes, but it does not combat microbes or adorn houses or render much real social service. Let us have poetry and languages, and fine arts, and pure sciences by all means. They are the indispensable basis of the best application of human knowledge to human affairs. But we should not stop with their bare acquisition, but should rather carry them on in professional training until there is that perfect blending of the theoretrical and the practical which leads to a harmonious union of learning and life.

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III

CIVIL-SERVICE REFORM PRINCIPLES IN EDUCATION[1]

It is a well-known truth that the most conservative of institutions are those thru which the processes of education are accomplished. Education clings to the old and reverences the past; it is guided by tradition and governed by precedent. It is on its guard against the adoption of new ideas and the acceptance of novel theories, and it has ever been a follower rather than a leader. This condition would be surprising were not an explanation for it readily found in the long domination of the educational system by that even more conservative influence, the Church. For centuries the Church led and education followed.

This conservatism has not been changed by the partial substitution of civil for ecclesiastical control; it is now the state instead of the Church that leads, while education still follows. The condition is well described by Mr. E. J. Lowell when he says of the political system: "It is characteristic of the European family of nations, as distinguished from the other great divisions of mankind, that among them different ideals of government and of life arise from time to time, and that before the whole of a community has entirely adopted one set of principles the more advanced thinkers are already passing on to another."[2]

If this principle is applied to the relative position of the state and education, it must follow that the starting-point of the statesman becomes the goal of the educator. Hence the educational system constantly suffers from the employment of antiquated political methods that have never represented our highest ideals, and from attempts to employ prin-

[1] A paper read at the annual meeting of National Civil-Service Reform League, Philadelphia, Pa., December, 1902.

[2] *Eve of the French revolution*, p. 1.

ciples not in harmony with the generally accepted ideas of the best form of political government. Illustrations of the slower pace in which education follows in the footsteps of the state are seen in the survival of denominational schools long after the separation of Church and state, in the adoption and retention of the monarchical principle in educational organization long after its abandonment in the political world, and in the educational disfranchisement of all officers of instruction so far as regards the choice of their superior officers.

It is therefore not surprising that it was long after the evil of the spoils theory was introduced into the body politic before its corrupting effects were noticeable in the educational system. But once introduced it has spread with great rapidity, until its extent is perhaps not realized by those whose activities have been given to checking its growth in political life.

The organization of educational work has lent itself readily to this rapid development of the spoils evil. In the absence of a national educational system the states have governed their educational affairs in their own way. Politicians and well-meaning philanthropists have thus often been able to control the general situation to the extent of requiring the teaching of certain subjects, like American History, in the interests of patriotism,[3] or prescribing that certain definite tenets should be taught, such as the injurious effects of alcoholic drinks, the benefits of protective tariff, and the virtues of bimetalism. In the choice of State superintendents of public instruction politics rather than merit has sometimes been considered,[4] while the adoption of uniform text-books published by the state opens up unlimited possibilities for corruption.

But the stronghold of the politician is in the local admin-

[3] It is interesting to see the insistence on this idea in the smaller States. The State Legislature of Nevada, for example, instructs its teachers "to kindle the fires of patriotism."

[4] Some years since a State superintendent of public instruction was elected by a State Legislature and some of the daily papers of the State congratulated the public on the ideal choice made, since the person elected had always served faithfully the cause of the Republican party.

istration of the public schools in towns and cities. In these places the management and control of public educational affairs is in the hands of two distinct bodies—the board of education and the superintendent. Of these two the more important is the board of education. What are its functions? They may be classed under three heads. The most obvious are the business duties or those that concern the educational plant. These include the purchase of school sites, the construction and repair of buildings, the decision in regard to methods of heating, lighting, ventilation, and sanitary equipment, all of these duties carrying with them the letting of large numbers of important contracts.

A second class concerns the material equipment of the schools. This comprises the purchase of school furniture, necessary apparatus, libraries, decorative material, stationery and similar supplies, and the selection and payment of janitors, watchmen, and other caretakers.

A third class is connected with the specific field of education. This includes the selection and appointment of superintendents, principals, and teachers; the decision in regard to the establishment of technical schools, commercial schools, evening schools, training schools for teachers, general industrial and mechanical training, courses of public lectures, university extension and similar educational activities, the choice of text-books, and finally the general questions connected with the curriculum.

In view of these manifold activities it is important to inquire how the members of the boards of education receive their office. Three general types of school boards are found. The oldest of these is a numerous body, made up of members representing the various wards of the city and residing in them. Election to the school board of this pattern is sought by political aspirants, who reason that, judging by the past, the school board is the first round in the political ladder that stretches from the street to the presidency. The temptations, therefore, are manifold to purchase for school sites property that may be ill adapted for school purposes,[5] but

[5] In one city the high school is located on the top of a high hill difficult to be

property that a brother politician desires to sell, to appoint for the construction of school buildings a local architect who builds dwelling-houses, churches, courthouses, banks, opera houses, and school buildings with equal lack of appreciation of the different uses each building is to serve; to let contracts for the purchase of supplies to those whose political support is sought; to decide in favor of the establishment of a training school for city teachers, not so much from a desire to have better trained teachers as from a wish to keep at home young men and women who may be centers of political influence.

It is school boards thus elected who have ruled that only residents of a city may occupy positions in the schools; that only one member of a family may be appointed, and that married women may not be appointed, because, if married, presumably they do not need the salary. It is school boards so chosen that refuse to raise the salaries of teachers on the ground that members of the same family have already had their salaries increased; that in some localities give positions in the schools to the lowest bidder, and in others to those who contribute most generously to the campaign funds of the dominant political party; that promote teachers on the principle of priority of appointment, irrespective of their qualifications for the advanced position, and, conversely, cut off the last teacher to be appointed, no matter how successful he may have been, if a reduction in the teaching force is necessary; that appoint young women to important positions with the object of retaining the political support of the families they represent;[6] that give places to young men for the sole reason that they have a political "pull";[7] that install as

reached on foot, while street-car lines pass on two sides of it, and the resulting noise is almost intolerable.

[6] A few years ago one of the district Tammany leaders had secured positions in the public schools of New York city for four sisters of one of his political subordinates. When the subordinate at one time refused to follow his leader, charges of the basest ingratitude were preferred against him by all the members of the Tammany camp.

[7] In one of our large city high schools, a department of biology was recently established. Among the candidates for the position of head of the department was a young man of small education, who had made a failure as a lawyer, and a young woman, a college graduate, who had made a special study of biology. The broken-down lawyer was "in" with the powers in control and received the

principals of schools men who murder the King's English, and that remove teachers who are unwilling to serve the personal ends of its members;[8] that furnish the schools with geographies twenty-five years old and with text-books on science written twenty years ago; that purchase stereopticons without lantern slides and that contract for chromos by the score to be used as wall decorations.[9]

It is in connection with school boards of this type—elected by and from the wards as their representatives—that the worst scandals in the administration of the public schools have arisen. Their attitude toward their duties is perhaps illustrated by a recent session of a school board where a member said with pride that he was not an educator in any way, shape, manner, or form whatever, and that if the people elected him on that supposition, they made a great mistake.[10]

The manifold evils of the method of electing school trustees in this manner may well be summed up in the words of a citizens' committee that has for many years been attempting, as yet ineffectually, to free one of our great cities from the grip of the spoilsmen. Where the ward system prevails, the committee reports: "The natural tendency is for the holders of places on the board to be governed by considerations of ward politics rather than by the interests of the schools at large. This is not theory; at present janitorships are traded off, and even principalships of schools in certain

appointment. Public opinion and the attitude of the students soon compelled his resignation and the young woman with some knowledge of the subject ultimately received the appointment.

[8] One teacher has recently been compelled to resign because she refused to use her influence to secure a railway pass for the president of the board from her uncle, the president of one of the great trunk lines.

[9] A few years since I visited the public schools of a large city that numbered among its civic associations one for the encouragement of art. This association had a large and invaluable collection of prints illustrating literary and historical subjects. Each one was tastefully framed in passe-partout and bore in print a full explanatory description of the scene, locality, event, building, or person represented. These pictures were loaned to the different public schools and were changed every three months. The week I visited the schools these, by the authority of the school board, were being replaced by hundreds of cheap, meaningless pictures, gaudily framed, that had apparently been purchased by the wholesale.

[10] *Proceedings of the National Educational Association*, 1900, p. 618.

wards are regarded as the perquisites of representatives of such wards. Buildings are secured for wards by members having the greatest 'pull,' and other districts are deprived of schools regardless of the needs of such districts. The whole school management becomes a system of trading of ward interests. The school district should be a unit if economical and systematic arrangement is to be possible."

The stream cannot rise higher than its source, and if school boards are elected for political or partisan reasons, superintendents and teachers will be elected on similar grounds; teachers will come to regard their occupation as a trade, not as a profession;[11] educational funds will be mismanaged, inferior school equipment will be supplied, and the educational results will be far from commensurate with the expenditures made. The ultimate result of this degeneration has been the establishment of private schools supported by the wealthy classes, who have paid from one pocket heavy fees for the education of their children, and from the other pocket still heavier tolls to the political highwaymen who have used the school funds to secure their own political preferment or personal advancement.

An awakening appreciation of the impossibility of having an efficient administration of the schools as long as their control is in the hands of a numerous body elected on a partisan ticket has led, in some places, to the substitution for it of a small body elected on a general ticket or appointed by the mayor. Experience has seemed to show that if governing bodies are so selected or appointed there is less danger of jobbery and log-rolling in the administration of the schools on their financial side, and that teachers will be less likely to be appointed for reasons of political influence, religious affiliations, family connection, personal popularity, or a desire to

[11] The Chicago Teachers' Federation recently voted to enter the ranks of the trades union and to ask admission to the Chicago Federation of Labor.—*Literary Digest*, November 22, 1902.

In New York city, the Central Federated Union voted December 21 to attempt to organize the public-school teachers of the city, and directed its organization committee to call a meeting of the public-school teachers for the purpose.—*The Tribune*, December 22, 1902.

protect home industries, than on account of character, scholarship, professional training, and teaching ability.

So much is the political control of the schools to be deplored that it would seem as if every community would be on its guard against the insidious rule and use all means possible to avert such an unfortunate condition; but the general apathy that characterizes nearly every town in the administration of its local political affairs is still more in evidence in the administration of its educational work. So little has as yet been accomplished to rid the schools of political influence that we seem not yet to have reached the parting of the ways. The superintendent of schools in one of our great inland cities has recently written: "I have yet to find the city where political influence does not, to a greater or less extent, find its way into the school department"; and his words would doubtless be echoed by large numbers of his fellow superintendents.

It is a matter of great congratulation that the principles of civil-service reform have taken such deep root that few are found who openly call in question their wisdom and efficiency. In the forty years that have intervened since Mr. Jenckes began his heroic struggle in the House of Representatives for the substitution of the merit system for the spoils system in the political field, enormous progress has been made and political parties now vie with each other in protestations of attachment to the cause of civil-service reform. But it must be said that the victories have as yet been largely within the domain of politics. The spoilsmen have been driven from the great departments of public administration in Washington and from State and municipal strongholds only to redouble their assaults on the public school system. While men have slept the enemy has sown tares!

That this should be the case has been but natural. The evils of the spoils system, as found in the national government, are far more patent than is their manifestation elsewhere, because of the great publicity that attends all presidential and cabinet appointments. Yet the opportunities offered the spoilsmen are in the aggregate far greater in the

educational than in the political field. The total number of teachers approximates 500,000, while the total number of civil officers is less than one-half as many.

Mr. George William Curtis said, in an address delivered in 1891 before the National Educational Association: "The alphabet is the ally of liberty, and in any accurate account of the forces that have made America the public school must stand first." But the public school, if it is to fulfill the sanguine expectations of those who would predicate Mr. Curtis' words of the future, rather than as yet of the past, must have an ally. The great masses of those connected with it are not only powerless to accomplish reform, but they fall an easy prey to the assaults of enemies. The public school is inert, it lacks initiative, it is a follower, not a leader. All the more important, therefore, is it that the leadership should be wise, capable, and disinterested.

Is it too much to hope that this body of influential men, who have already accomplished so much in wresting the civil service from the clutch of the grasping politician, will turn its attention to the public school and make it indeed—to adapt the words of Mr. Curtis—the great force that lies behind the ideal America? Such effort must be doubly repaid in the building up of a great constituency imbued with high ideals of public service.

When a reform in the civil service was agitated in England Sir James Stephen said that a moral revolution was necessary in that country before the reform could become an accomplished fact. Could the educational system be freed from the curse of the spoils evil, and could the youth of the land be taught by example and daily conduct, as well as by precept, the higher ideals of public life, the moral revolution that would result would turn the ideals of the National Civil Service Reform League into accomplished facts.

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IV

PUBLIC ELEMENTARY SCHOOLS OF ROME

Of the remarkable progress in education during the last quarter of the past century, the features which have attracted most attention are, perhaps, the rapid development of Board Schools in the English cities, the reforms in secondary education in Germany, and the great expansion of the universities in the United States. Less noted, but not less far-reaching in results, is the movement in the direction of popular education which has occurred during the same period in Italy. Amid a (thoroly Catholic) population and under the shadow of the Vatican, has been developed a system of purely secular education entirely free from the compromises which constitute so perplexingly a problem for English parliaments. Illiteracy, which existed in appalling proportions, is being rapidly reduced, and a population consisting of the most diverse elements and possessing intense local prejudice is becoming gradually unified. Because of a centralized authority and an enlightened policy, reforms, which elsewhere are gained only by a slow evolution, are introduced with remarkable rapidity and efficiency; an example of this is seen in the widespread adoption of courses in agriculture and manual training.

It is the purpose of this brief article, however, not to enter upon a general discussion of education in Italy or to summarize its history and statistics,—which is excellently done in the reports of the United States Bureau of Education, especially in the volumes for 1893-94, 1894-95 and 1898-99,—but to supplement these reports by some concrete illustrations gathered in a visit to several of the elementary schools in the capital city.

Since Rome is looked upon as an ancient rather than a modern city, it is somewhat of a surprise to the visitor to

find this city in advance of other great capitals of Europe, notably Berlin and Vienna, in the character of its school buildings, in the sanitary conditions and in the course of study: to find, in a word, that Rome has public schools of the most modern type.

The newer buildings are admirably planned to secure good lighting and freedom from the noises of the street. The quiet, which in Berlin is secured by placing the buildings in rear lots in the center of a city block, is here obtained by running corridors along the front of the building and placing the classrooms in the rear overlooking the play-grounds. Double spiral stairways, occupying no more space than is usually required for a single stairway, afford facilities for the simultaneous entrance and exit of classes without interference. Baths, workshops, and gymnasiums are provided. The play-grounds are in the rear of the buildings, the wings of which break up the space in such a way that isolated grounds are secured for the kindergarten and other divisions of the school. Fish ponds and gardens add to the attractiveness of the surroundings and afford opportunity for nature study. In New York, roof gardens are a substitute for play-grounds; in Rome, not only is additional play space secured in this way, but even the means for a liberal education.

From the roof garden of the Vittorino da Feltre school on the Via Colosseum one directly overlooks the Colosseum, the Arch of Constantine, the Forum, the Capitol, the Palatine Hill and the Alban Mountains—Rome, primitive, republican, imperial, Christian, and mediæval. In the skillful utilization of location, in economy of space and in architectural refinement, the building just mentioned is noteworthy.

The classrooms are well lighted and, tho plain, are attractive. There is not the severe simplicity of the German schools, nor, on the other hand, the profusion of charts, pictures and pupils' work displayed in the schools of Antwerp and Brussels. A crucifix above the teacher's platform, a small blackboard, one or two pictures or maps of ancient or modern Rome, a class library, and a few specimens of pupils'

work are the usual features. Tho the municipality is poor and the taxes extremely high, no necessary expense seems to be spared in securing the best sanitary conditions and appropriate medical supervision. Thru lack of funds the best building in Vienna, that at Floridsdorf, is not kept in repair and its baths are unused, because of inadequate heating. In Berlin one may see, in the municipal pedagogical museum, samples of adjustable desks, and upon inquiry may learn that they were too expensive for use; in far less wealthy Rome one may see such desks in use. The manner of adjustment seems peculiar to one accustomed to the American school furniture; the desk and chair are fixed, the platform is movable.

The supply of drinking water corresponds to the plan recently adopted by the board of education of Chicago; water is drunk directly from fountains without the use of cups. To avoid communication of diseases of the skin and of the eye each child has his individual towel. There is also, as in New York, a daily medical examination. Not only is attention given to the prevention of disease, but all available means are employed to further the physical and moral welfare of the children. A society for the care of poor children, which originated in connection with the Pestalozzi school on the Via Montebello, has extended its operations to other municipal schools. Food and clothing are supplied to the needy, many are sent to the country in the summer, and homes are provided for the destitute.

The work of the school itself is not limited to the hours of the session, from nine to three; in an open school building an attempt is made to find a substitute for the influences of the street and to provide a home for those children whose parents are at work during the entire day. The children who remain after regular hours are under the supervision of a teacher and are allowed to play, to do manual work, to use the class libraries, or to study. On Sundays the teachers give popular lectures, frequently illustrated by means of a stereopticon, and particularly dealing with the art and history of Rome.

In the organization of a school, the sexes are separated and are placed in different wings of the building, with a principal for each side. The girls are taught by women and the boys by men, with the exception that the boys of the lowest grades may be taught by women. There are from fifty to sixty children in a class. The ages range from six to twelve, the compulsory period being from six to nine. The teachers are refined, gentle in manner, and apparently well equipped for their work; a normal training is required. No effort seems necessary in order to maintain discipline. The children are orderly and earnest. All wear large aprons with sleeves, one color for the boys, another for the girls; the number of stripes on the apron indicates the grade of the child, and in many cases the name or initials are added. The wearing of the apron is not a sign of an inferior class, as is the case in France and Belgium; but, besides being conducive to neatness and cleanliness, it serves in obliterating in the elementary school all distinction of class and dress, as is claimed for use of the academic gown in higher institutions in the United States.

In the incorporation of the kindergarten in the public school system, Rome is in advance of other European capitals. There are, in addition to a training class for teachers, forty kindergartens under municipal control. The age of admission is from three to six. The hours of session are from nine to two. As the children are seated at desks instead of at tables, as in America, the rooms have the appearance of ordinary classrooms. Slates ruled in squares are used for drawing lessons on the geometric plan proposed by Froebel. All the occupations follow closely the traditional methods, with a consequent disregard of the strain upon eyes and muscles involved in the needlework. Outside the classroom, however, there is evidence of more freedom; gardens planted by the children and fish ponds afford opportunity for activity and for nature study. A visit to the training class for kindergarten teachers throws some light upon the extreme formality noticed in the work with the little children. A large proportion of the time is given to paper folding, pricking,

and to Froebel's method of drawing; and no instruction is given in psychology and the history of education.

The course of study in elementary schools is divided into a lower course of three years and a higher course of two years, the lower course fulfilling the requirements of the law for compulsory education. With the exception of manual training, a subject of recent introduction, the program of studies and the method of teaching are still mainly determined by the decree of 1894.

In arithmetic, oral exercises in the four operations as far as 20, and in numeration to 100 are prescribed for the first year's work. During the second year, the four rules are taught orally to 100, written to 1000, and applied to the solution of easy problems. Common fractions, decimals, the metric system, and the drawing and definition of simple geometric figures are introduced in the third year. The two higher classes study the mensuration of plane and solid geometrical bodies; measures of volume, weight, and value; proportion and percentage, with their applications to practical—mainly commercial—problems. The course is simple, logical, and practical; it relates drawing, number, and elementary notions of geometry, and aims at application. It is required that arithmetic be taught in a practical manner and that an unhesitating facility in the use of the four rules be secured. Whether due to the plan of the course, or to the amount of drill and oral work, or to the precocity of the children, the results in arithmetic in Roman schools seem to be in advance of those generally secured in the corresponding grades in America, particularly in rapid and accurate analysis and in the solution of problems.

Object lessons are given thruout the lower course, that is the first three years. They include common objects of the home and school, the parts of the body, division of time, the seasons, foods, animals, arts, industries, inventions, communication, and transportation.

In the teaching of language and reading, precision in the use of both spoken and written language is a primary aim; to secure this, great stress is laid upon imitation, dictation, and

committing to memory. Grammatical study begins with the conjugation of the verb in the third year. Penmanship, *Calligrafia*, as it is called (and it is really beautiful writing which one sees in the copybook, note books, and exercises of the children), is taught partly in connection with language, as in dictation exercises, and partly by means of copybooks ruled with many space and slant guide lines.

In the study of history and geography the Roman schools occupy a unique position; the problems of correlation and of the unification of the local and the general, the modern and the classical, here vanish. Both subjects begin with the home, advance in the second year to a view of Europe and the world, and return again to a more detailed examination of Italy and Rome in the third year. These subjects are introduced in the third grade by the study of the cardinal points, the surroundings of the school, the topography of the city, the provinces of Italy, and the Italian "*resurrection.*" In the fourth grade are studied the story of the foundation of Rome and the history of the republic, of the empire, and of the mediæval period; the geography of Europe, and the world. The work of the fifth grade takes up again in a more detailed manner the geography of Italy and the history of the modern national period. The aim is the cultivation of an appreciation of the value of united Italy and of the obligations to the city and the nation. The method of treatment involves a discussion of duties to the family, society, and the state.

Religious instruction is given only upon request of the parents, and outside of school hours. Morals are taught by example and in connection with other studies, particularly history.

In accordance with the policy of the Minister of Education, "for each rural school a field, for each urban school the experimental workshop, and for females training in female occupation and domestic economy," manual training courses are provided for both boys and girls. The boys have work in wood, cardboard, and bookbinding. Articles useful in the school are, whenever possible, employed instead of a fixed series of models. The girls have sewing and cooking. Not

mere ability to cook and to sew, but the skillful and economical management of a household is the aim of instruction. A week's problem for a group of girls may consist in purchasing food for a small specified sum, planning the bill of fare, and doing the actual cooking and service required for a family of a certain number. Advanced work of a practical nature for boys is provided for in day and evening commercial, technical and trade schools; and for girls, equal advantages are secured in special schools. The Superior Elementary Schools for Girls and the Professional Female Schools continue the practical work of the lower elementary courses and prepare girls for bookkeeping or correspondence; for industries such as the making of artificial flowers, gloves, or hats; for dressmaking or laundry work; or for domestic occupations. The Commercial School for Girls, which admits pupils at about fourteen years of age, is planned with a view particularly toward preparing clerks and accountants, and includes, in its course of three years, two modern languages. The schools themselves, as well as the assertions of the educational authorities, are an evidence of a very definite policy in the direction of the education of self-supporting women.

Such public elementary schools as those just described are a recent development in Rome; they did not exist before 1870, the date of the incorporation of the city into the kingdom of Italy. "So long as Rome remained under papal control elementary education was absolutely in the hands of the priests, and lacking the stimulus of competition, and of state supervision, was entirely inadequate, small in quantity, and poor in quality."[1] Upon the downfall of the papal temporal power the municipal authorities promptly inaugurated a system of free public schools in accordance with the government policy embodied in the Casati law of 1859, which demanded compulsory education and the certification of teachers.

The success of these efforts is partially admitted by one so little in sympathy with their object as Cardinal Satolli, who says: "The municipal authorities of Rome, in their anxiety

[1] Hinsdale, *Report of the U. S. Bureau of Education*, 1893–94, p. 370.

to impress the people and prejudice them in favor of the state schools as against the Catholic schools, went to great expense in erecting magnificent buildings, containing large and well ventilated rooms, gymnasiums, playgrounds, and every other adjunct of usefulness and comfort that hygiene and pedagogy could devise."[2]

How the church authorities have been stimulated in the establishment of elementary and normal schools is described in the article just referred to. There are now in operation two complete systems, including elementary, secondary higher, technical, and normal schools; the one system entirely secular and supported by the municipality and the government, the other, the Catholic school system, supported and controlled by the papal authorities, subject, however, to the state programs and certification of teachers.

A limited observation of the municipal public elementary schools leads to the conclusion that not only will these schools bear comparison with the systems of other large cities, but that much of suggestion may be found in the planning of school buildings, in the use of buildings, in the attention to sanitary condition, in the care for weak and destitute children, in the development of a curriculum to meet practical needs, and particularly in the cultivation of a spirit of civic pride and national patriotism. Nowhere more than in Italy and in Rome is there a greater appreciation of the fact that the future of the city and of the nation is largely dependent upon the character of the schools, and nowhere are greater efforts being made against illiteracy and prejudice toward the realization of national ideals.

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[2] *North American Review*, December, 1894.

V

AN HOUR'S WORK DONE BY SCHOOL CHILDREN

After having studied the curve of the mental fatigue[1] caused in public-school children during their daily teaching, I sought for the results of mental work in an hour's lesson at the beginning and at the end of the daily teaching, and at the beginning and end of the scholastic year. I used for my researches male and female children; the former were of the average age of eleven years and seven months, the latter of eleven years and nine months.

The boys worked for one hour, from 9.45 to 10.45 on the 17th of January and on the 7th of June, and from 1.45 to 2.45 P. M. on the 21st of January and the 11th of June. The girls worked from 9.45 to 10.45, on the 19th of January and on the 9th of June, and from 2 till 3 P. M. on the 16th of January and on the 6th of June.

What was the kind of work most adapted for the researches that I desired to make?

I took into consideration first of all the trial by dictation, which I had used for the study of mental fatigue and Ebbinghaus' combination exercises, which had served me to establish the difference between the mental capacity of boys and girls[2] of about eleven and twelve.

I at once discarded the combination exercises as not being adapted to the case in question. In my opinion it was necessary to use an easier work, to the execution of which the scholar, on account of the daily practice, was sufficiently accustomed.

[1] "La stanchezza mentale nei fanciulli dalle pubbliche scuole." Bologna, Regia tipografia, 1901.

"The mental fatigue in school-children." Short account published in *The Lancet*, No. 10, 1st vol., 1901.

[2] Intorno alla capacita mentale di ragazzi e ragazze che frequentano la 5a classe elementare. Rivista sperimentale di Freniatria v. xxvii. Fas. II. 1901.

The dictation, then, appeared at first sight the best means of studying the curve of mental work produced by children during an hour's lesson.

It serves very well (as I have said in my work on the mental fatigue in school children) to prove the mental fatigue during the different moments of daily school work. On account of its easiness it is done without bringing into play any superior intellectual faculty, and is written more or less correctly according to the attention that the scholars can pay in the moment of its execution.

As the attention decreases in proportion as the mental fatigue increases, we can judge of the mental fatigue of the children at a given moment from the greater or less number of mistakes that we find in the dictation done in the same moment.

But for the research that I had the intention to undertake, I did not believe that the dictation was adapted, because to obtain the curve of the work during one hour's lesson it is necessary for the scholar to apply himself more attentively than he does when writing from dictation. Besides, the latter could not serve in my case, for the reason that if we will have a dictation well done we must wait till the phrase, or the proposition, which the teacher has dictated has been written by all the scholars before beginning to dictate the following one.

Therefore in one hour, during which the scholar can write from 80 to 90 propositions of common length, we shall have a loss of work which is represented by the sum of the little different losses of time during which the quickest scholars did not work whilst waiting till the others had finished writing the dictated phrase. And as we cannot determine this loss of time (which it is possible to do by other methods) we are not able in consequence to establish the loss of work made by the boys during the whole hour, and therefore the exact quantity of work done during an hour's lesson.

For these reasons I put aside the dictation, and I had recourse to a trial by arithmetic, because the scholar is accustomed to do this work, which is not so easy as the dicta-

tion; therefore he must use his mind more than is necessary for the execution of a simple dictation. Amongst the four operations of arithmetic I used division, contrary to what the greater number of those who have studied this argument have done. I gave to each scholar four sheets of paper (respectively numbered 1, 2, 3, 4), on each of which were printed ten division sums, distributed in this manner:

1 3987654÷369.	2 723456÷896.
3 4866537÷835.	4 957986÷987.
5 4030201÷569.	6 240300÷198.
7 1982436÷798.	8 987654÷782.
9 2834569÷945.	10 456789÷377.

Every sheet represented the work that the boy must do in a quarter of an hour. It is needless to say that the sheets I used in the morning experiments were different from those which I used in the afternoon.

In order to prevent the boys from helping each other I arranged that whilst a scholar for the first quarter of an hour was working on sheet No. 1 the boy next to him began on sheet No. 3; the former passed from sheet No. 1 to sheet No. 2, and so on to 3 and 4; the latter in the second quarter of an hour did the operations on sheet No. 4, and then passed on to Nos. 1 and 2.

As I have already said, every sheet of paper on which were printed ten divisions represented the work of a quarter of an hour, and when this time was passed the scholar put aside the sheet on which he was working and began at once on the next one. If a boy finished his work before the expiration of that time he at once informed me and I wrote at the bottom of the sheet how many minutes he had employed in doing it.

In this manner I was able to calculate the time during which the scholar did not work and therefore, in proportion to the work done, and the mistakes made during the time in which he had finished his calculation, the work and mistakes that would have been made if he had worked during the whole time of the experiment. For the correction and calculation of these works I used a very simple method. I calculated the

number of the operations which each division contained and the mistakes that the boys had made. The operation well done which came after one mistake was not considered as an error, tho the final result of the division was different from that which it would have been if all the operations had been well executed. I did not take into consideration the auto-corrections, as I had done when I calculated the results of dictation in my work about mental fatigue, because I saw that they could not modify the curve that I obtained.

After these few explanations I give the results of the boys' work. The tables I. and II. that I put here, represent the work done by the boys on the 17th of January from 9.45 till 10.45 A. M.

From these tables we see that the scholars during the second quarter of an hour did 16,128 operations more than those they did during the first. But after this second period

JANUARY 17, 1901

BOYS, NO. 42 FROM 9¾ TO 10¾ A. M. TABLE I

Time of Work	Number of Operations	Number of Mistakes	%	Average of Mistakes for each Scholar
9¾–10	140,616	99	0.070	2.35
10–10¼	156,744	152	0.096	3.61
10¼–10½	150,696	192	0.127	4.57
10½–10¾	148,680	209	0.140	4.97
9¾–10¾	596,736	652	0.109	15.52

TABLE II

Time of Work	No Mistakes	%	1	%	2	%	Highest Number of Mistakes
9¾–10	9	21.4	5	11.9	12	28.5	9
10–10¼	5	11.9	7	16.6	9	21.4	16
10¼–10½	5	11.9	5	11.9	8	19	26
10½–10¾	2	4.7	6	14.0	6	14	21

of time the work begins to decrease, tho it still remains greater than that done by the scholars during the first quarter of an hour. In the second quarter of an hour the scholars did 6048 operations more than in the third, and 8064 more than in the fourth. The number of the mistakes, and consequently their percentage, increases gradually from the first quarter of an hour, in which it is 0.070, to the last, in which the percentage is 0.140. With the percentage of mistakes their average for each scholar naturally increases.

In the table II., which collects in groups the scholars who made the same number of mistakes and shows the highest number found in each quarter of an hour, we see that the percentage of scholars who did not make mistakes is 21.4 in the first quarter of an hour; it decreases to 11.9 in the second and third, and falls to 4.7 in fourth, and whilst in the first quarter of an hour the highest number of mistakes was 9, in the second, third, and fourth we reckoned respectively 16, 26, and 21.

After having seen the results of the work done by the boys during one hour in the morning, we will examine the tables

III. and IV., which show the results obtained from the work done by the same boys during one hour in the afternoon, four days after the experiment made in the morning.

JANUARY 21, 1901

BOYS, No. 38 FROM 1½ TO 2½ P. M. TABLE III

Time of Work	Number of Operations	Number of Mistakes	%	Average of Mistakes for each Scholar
1½–1¾	145,008	217	0.149	5.71
1¾–2	138,624	230	0.165	6.05
2–2¼	136,800	258	0.188	6.78
2¼–2½	124,032	285	0.228	7.50
1½–2½	544,464	990	0.181	26.05

From the third table we see that the number of operations decreases gradually from the first to the fourth quarter of an hour, whilst the percentage of mistakes and their average for each boy increases. The table IV. shows that the number of scholars who did not make mistakes is 3 in the first, second, and fourth quarters of an hour and 4 in the third. The highest number of mistakes made by the scholars was 18 in the first quarter of an hour, 33 in the second, 26 in the third, and 36 in the last.

It is very interesting to compare the results of the work done by the boys in the morning (Tables I. and II., with those which we obtained in the afternoon (Tables III. and IV.). From this comparison we see at first sight that in the after-

TABLE IV

Time of Work	No Mistakes	%	1	%	2	%	Highest Number of Mistakes
1½–1¾	3	7.8	4	10.5	4	10.5	18
1¾–2	3	7.8	3	7.8	6	15.7	33
2–2¼	4	10.5	5	13.1	2	5.2	26
2¼–2½	3	7.8	3	7.8	5	13.1	30

noon the scholars did, during the whole hour of work, 52,272 operations less than those done in the morning, with a higher percentage of mistakes.

After a minute examination of these tables we see that in the first quarter of an hour's work in the afternoon the scholars did 4392 operations more than during the same time in the morning; but whilst in the morning the production of work increases in the second quarter of an hour and decreases in the third and fourth, remaining, however, superior to that of the first, in the afternoon the quantity of work done by the scholars in the second quarter of an hour is less than that of the first, and than that of the same period of time in the morning. This diminution increases in the third and fourth quarters of an hour, and the production of work is always inferior to that of the corresponding period of time in the morning. If we consider the percentage of mistakes we see that in the afternoon during the first quarter of an hour it is superior by 0.079 to that obtained in the work done during the same period of time in the morning, as are also superior those of the second, third, and fourth quarters of an hour in

comparison with the same period of time in the morning by 0.69, 0.061, and 0.088. Also the averages of mistakes for every scholar are in the afternoon work always superior, even when the quantity of work was less than that done in the same period of time in the morning.

The comparison between the tables II. and IV. shows that during the first quarter of an hour of work in the morning 21.4 per cent. of the scholars did not make mistakes, 11.9 per cent. only one mistake, and 28.5 per cent. only two mistakes, and the greatest number of mistakes made was 9, whilst in the afternoon, during the same first quarter of an hour, the percentage of scholars who did not make mistakes was only 7.8, and the highest number of faults was 18, and the per cent. of scholars who made one and two mistakes was 10.5, 10.5. And in all the other quarters of an hour we always see that in the afternoon, except the last, the percentage of scholars who did not make mistakes was less than that observed in the morning; the percentage of boys who made only one or two mistakes was almost always inferior and the number of mistakes higher.

From what we have seen it results that in the first months of the scholastic year the boys did during the whole hour in the afternoon a less quantity of work which was worse as regards quality than what they had done during the same length of time in the morning.

After having seen the results obtained at the beginning of the scholastic year in the morning and in the afternoon, I will relate those obtained from the work done by the scholars at the end of the same.

Both in the morning as well as in the afternoon the scholars did the same divisions which had served for the experiments in the month of January.

From the tables V. and VI., which collect the results obtained in the work done on the 7th of June from 10 to 11, we see that during the second quarter of an hour the scholars did a greater amount of work than during the first; this quantity decreases in the third, in which it is inferior to that of the first, and increases again in the fourth, in which it is a little

JUNE 7, 1901

BOYS, NO. 41 FROM 9¾ TO 10¾ A. M. TABLE V

Time of Work	Number of Operations	Number of Mistakes	%	Average of Mistakes for each Scholar
9¾–10	166,788	263	0.157	6.41
10–10¼	168,264	312	0.185	7.61
10¼–10½	165,312	353	0.213	8.61
10½–10¾	168,756	417	0.247	10.17
9¾–10¾	669,120	1345	0.201	32.80

TABLE VI

Time of Work	No Mistakes	%	1	%	2	%	Highest Number of Mistakes
9¾–10	1	2.4	4	9.7	7	17	26
10–10¼	—	—	5	12.1	4	9.7	27
10¼–10½	1	2 4	2	4.8	4	9.7	28
10½–10¾	1	2.4	5	12.1	1	2.4	41

superior to that of the second. But the percentage of mistakes is not in relation with these oscillations in the quantity of work, because the former increases gradually and continually from the first to the last quarter of an hour, as does the average of mistakes for every scholar.

If we consider the number of scholars who did not make mistakes, and the greatest number of mistakes during every quarter of an hour's work, we see in the table VI. that in the first, third, and fourth quarters of an hour only one scholar did not make mistakes, whilst in the second all the scholars made mistakes, and the greatest number of faults increases, from the first to the fourth quarter of an hour, from 26, 27, 28 to 41.

The tables VII. and VIII. give the results obtained in the work done from 1.30 to 2.30 P. M. on the 11th of June.

In the table VII. we see that the production of work

JUNE 11, 1901

BOYS, No. 36 FROM 1½ TO 2½ P. M. TABLE VII

Time of Work	Number of Operations	Number of Mistakes	%	Average of Mistakes for each Scholar
1½–1¾	140,400	294	0.209	8.16
1¾–2	138,672	335	0.241	9.30
2–2¼	138,240	357	0.258	9.91
2¼–2½	140,832	440	0.312	12.12
1½–2½	558,144	1426	0.255	39.60

TABLE VIII

Time of Work	No Mistakes	%	1	%	2	%	Highest Number of Mistakes
1½–1¾	1	2.7	4	11.1	4	11.1	25
1¾–2	—	—	2	5.5	2	5.5	33
2–2¼	1	2.7	—	—	3	8.3	30
2¼–2½	1	2.7	--	—	3	8.3	57

decreases from the first to the second, and from the second to the third quarter of an hour, and increases in the fourth, in which the scholar did 432 operations more than in the first. With that production of work we have a percentage of mistakes and an average for each scholar which increase constantly and gradually from the first to the last quarter of an hour.

The table VIII. shows that in the first, third, and fourth quarters of an hour only one scholar did not make mistakes, whilst in the second all made errors, and that the greatest number is 25 in the first, 33 in the second, 30 in the third, and 57 in the fourth.

If we compare the table V. with table VIII. and table VI. with table VIII. we see that in every quarter of an hour in the afternoon the scholars produced a less amount of work, which was worse in quality than that done by the same boys during the morning experiment. The number of scholars who did not make mistakes was identical in the morning and in the afternoon, and in this latter the greatest number of mistakes for each quarter of an hour, except the first, was

higher. Also the percentages of boys who made only one or two mistakes were almost always higher in the morning than in the afternoon. But it is more interesting to compare the work obtained at the beginning and at the end of the scholastic year.

First of all we will put in evidence the differences between the table I. and II., which show the results of the work done in the morning of the 17th of January, and the tables V. and VI., which collect the results of the work done on the morning of the 7th of June.

We see from this comparison that on the morning of the 7th of June the scholars produced a greater quantity of work than that done on the morning of the 17th of January. This work was, however, inferior in quality to that of the month of January. In reality, on the morning of the 7th of June the scholars did 62,384 operations more than those done in the same period of time in the month of January, because during each quarter of an hour they worked more than they had done in January. But in this work a higher percentage of mistakes and a greater average for each scholar was always found. Besides in each quarter of an hour of the work done in the month of January the number of scholars who did not make mistakes, or who made only one or two, was greater than during the same period of time in the month of June.

In this month the highest number of mistakes for each quarter of an hour was in comparison to the month of January always greater. And if we compare the tables III. and IV., which collect the results of the work done by the boys from 1.30 to 2.30 P. M. on the 21st of January, with the tables VII. and VIII., which show the results of the work produced during an hour in the afternoon of the 11th of June, we see that the same results take place.

The production of work during the whole hour was higher in the month of June than in the month of January, tho that did not happen constantly in each quarter of an hour. We always see, however, a greater percentage of mistakes and a higher average for each scholar even in the first quarter of an hour, in which we noted a less production of work.

The scholars who did not make mistakes were in each quarter of an hour more numerous in the month of January, as was almost always greater the percentage of boys who made only one or two mistakes. Besides, the highest number of mistakes which resulted during each quarter of an hour in this month was equal in the second, inferior in the first, third, and fourth, to that we observed in the month of June.

And now, after having examined the results obtained from the work done by the boys, we will take into consideration that done by the girls.

I used for these experiments the same division which I used for the boys.

The tables IX. and X. show the work done by the girls from 9.30 to 10.30 A. M. on the 19th of January, 1901. From their tables we see that the production of the work increases in the second quarter of an hour, and decreases in the third and

JANUARY 19, 1901

GIRLS, NO. 44 FROM 9½ TO 10½ A. M. TABLE IX

Time of Work	Number of Operations	Number of Mistakes	%	Average of Mistakes for each Girl
9½–9¾	68,640	100	0.145	2.27
9¾–10	130,944	240	0.183	5.45
10–10¼	121,440	234	0.192	5.31
10¼–10½	129,360	266	0.205	6.04
9½–10½	450,384	840	0.185	19.09

TABLE X

Time of Work	No Mistakes	%	1	%	2	%	Highest Number of Mistakes
9½–9¾	4	9.0	5	11.3	5	11.3	9
9¾–10	3	6.8	6	13.6	5	11.3	21
10–10¼	4	9.0	5	11.3	9	20.4	27
10¼–10½	7	15.9	2	4.5	5	11.3	22

fourth. But I must note that the girls during the first quarter of an hour produced a quantity of work very inferior to that done in all the other moments of the experiments. Therefore very probably this quantity of work does not represent the real quantity that they could have produced in that given moment. This fact has perhaps its explanation in the unusual manner in which the work was put before them. In the first moments they did not succeed in applying themselves diligently, as is clearly shown by the quantity of work produced. This inconvenience could have been rectified by giving the girls a proof exercise a few days before.

The percentage of mistakes found in each quarter of an hour increases gradually from the first to the last; in spite of this their average in the third quarter of an hour is a little less than in the second, according to the less quantity of work done by the scholars in this period of time.

The number of girls who did not make mistakes does not show anything interesting. The highest number of mistakes found was 9 in the first quarter, 21 in the second, 27 in the third, and 22 in the fourth.

JANUARY 16, 1901

GIRLS, NO. 43 FROM 2 TO 3 P. M. TABLE XI

Time of Work	Number of Operations	Number of Mistakes	%	Average of Mistakes for each Girl
2–2¼	113,004	176	0.155	4.00
2¼–2½	96,492	197	0.204	4.58
2½–2¾	94,428	231	0.244	5.37
2¾–3	81,528	220	0.269	5.11
2–3	385,452	824	0.213	19.16

TABLE XII

Time of Work	No Mistakes	%	1	%	2	%	Highest Number of Mistakes
2–2¼	5	11.6	8	18.6	2	4.6	14
2¼–2½	4	9.3	7	16.2	3	6.9	22
2½–2¾	2	4.6	4	9.3	8	18.6	27
2¾–3	7	16.2	6	13.9	2	4.6	23

From the tables XI. and XII., which collect the results of the work done by the girls from 2 to 3 P. M. on the 16th of January, 1901, we see that from the first to the fourth quarter of an hour the quantity of work decreases, whilst the percentage of mistakes and their average for each scholar increase. The number of the scholars who did not make mistakes, or who made only one or two, resulted without any rule. The highest number of mistakes was 14 in the first quarter of an hour, 22 in the second, 27 in the third, and 23 in the fourth.

And if we compare the results obtained in the morning of the 19th of January with those obtained in the afternoon of the 16th of January we see that, except in the first quarter of an hour, in which the comparison cannot be made, for the reason already given about the work of the first quarter of an hour in the morning, the scholars did a less quantity of work in the afternoon. This less production of work was accompanied with a higher percentage of mistakes. The average of faults for each scholar was in the second and fourth quarters of an hour in the afternoon inferior to that of the same period of time in the morning, tho the quality of work was worse, as was shown by the superior percentage of mistakes. The explanation of this apparent contradiction is easy when we take into consideration that the number of mistakes was less in reality, but higher in proportion to the less quantity of work done. We do not see any difference in the number of scholars who did not make mistakes, but the highest number of faults was, in the morning 9 in the first quarter of an hour, 21 in the second, 27 in the third, and 22 in the fourth, whilst in the afternoon it was 14 in the first, 22 in the second, 27 in the third, and 23 in the fourth.

Therefore we can conclude that the work done by the girls during an hour in the afternoon of the first months of the scholastic year was less and worse than that produced by the same girls during one hour in the morning.

The tables XIII. and XIV., collect the results of the work done by the girls form 9.45 to 10.45 A. M. on the 9th of June.

JUNE 9, 1901

GIRLS, NO. 40 FROM 9¾ TO 10¾ A. M. TABLE XIII

Time of Work	Number of Operations	Number of Mistakes	%	Average of Mistakes for each Girl
9¾–10	112,800	199	0.176	4.97
10–10¼	111,360	267	0.239	6.67
10¼–10½	106,080	285	0.268	7.12
10½–10¾	108,480	301	0.275	7.52
9¾–10¾	438,720	1,052	0.241	26.28

TABLE XIV

Time of Work	No Mistakes	%	1	%	2	%	Highest Number of Mistakes
9¾–10	5	12.5	5	12.5	5	12.5	19
10–10¼	2	0.5	1	2.5	4	10	21
10¼–10½	3	7.5	4	10	2	0.5	23
10½–10¾	3	7.5	1	2.5	4	10	22

From these we see that from the first to the third quarter of an hour the production of work decreases, and increases again in the fourth, whilst the percentage of mistakes and their average for each scholar increases continually. The number of girls who did not make mistakes, or who made only one or two, shows little difference in each quarter of an hour, and the highest number of mistakes is 19 in the first, 21 in the second, 23 in the third, and 22 in the fourth.

In the tables XV. and XVI., which show us the results obtained in the work done by the girls from 2 to 3 P. M. on the 6th of June, we see that the quantity of work increases a little from the first to the second quarter of an hour and decreases in the third and fourth. During this last the girls did 11,040 operations less than in the first. The production of work of each quarter of an hour is accompanied by a percentage of mistakes which increases gradually from the first

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GIRLS, No. 40 FROM 2 TO 3 P. M. TABLE XV

Time of Work	Number of Operations	Number of Mistakes	%	Average of Mistakes for each Girl
2–2¼	104,640	213	0.203	5.32
2¼–2½	108,480	235	0.216	5.87
2½–2¾	100,800	287	0.284	7.17
2¾–3	93,600	283	0.302	7.07
2–3	407,520	1,018	0.249	25.45

TABLE XVI

Time of Work	No Mistakes	%	1	%	2	%	Highest Number of Mistakes
2–2¼	5	12.5	6	15	7	17.5	27
2¼–2½	3	7.5	3	7.5	5	12.5	24
2½–2¾	5	12.5	3	7.5	—	—	33
2¾–3	4	10	4	10	7	17.5	45

to the fourth. The average for each scholar increases from the first to the third quarter of an hour and decreases a little in the fourth, according to the less quantity of work done.

The differences which one finds amongst the numbers of the girls who did not make mistakes, or who made only one or two, are without any rule. The highest number of mistakes was 27 in the first quarter of an hour, 24 in the second, 33 in the third, and 45 in the fourth.

If we compare the results obtained from the work done in the morning of the 9th of June (Tab. XIII. and XIV.) with those obtained from the work done during one hour in the afternoon of the 6th of June (Tables XV. and XVI.) we see that in this last, during each quarter of an hour, a less production of work was constant, with a percentage of mistakes which, except in the second, was greater than that obtained during the same time in the morning. The average of mistakes was sometimes higher and sometimes lower, but the total sum was less in the afternoon than in the morning. The number of scholars who did not make mistakes was equal in the first quarter of an hour, a little greater in the second,

third and fourth during the afternoon, and the highest number of mistakes found in each quarter of an hour was superior in the afternoon to the morning.

Therefore the results of the work in the afternoon in the last month of the scholastic year were a little worse than those of the morning. But, as I have said, when I examined the results obtained from the work of the boys, the most interesting thing is to compare the work done at the beginning and at the end of the scholastic year.

From the examination of the tables IX. and XI., which collect the results of the work done by the girls during one hour in the morning of the month of January with the tables XIII. and XIV., which show the quantity and quality of work produced by the same girls during the same hour in the month of June, we see that during this last hour, except in the first quarter, the girls always produced the less quantity of work. This production of the afternoon was always accompanied by a higher percentage of mistakes and a higher average from each scholar.

If we consider the percentage of the girls who did not make any mistakes or only one or two, we see that it is superior in the second, third, and fourth quarters of an hour at the beginning of the scholastic year to that obtained in the month of June, whilst in this month the percentages of the first quarter of an hour are a little higher than the corresponding ones of the month of January. The highest number of mistakes found in each quarter of an hour of work in the month of January is inferior to that obtained during the same period of time in the month of June in the first, equal in the second and fourth, and superior in the third. Therefore, during an hour's work in the morning at the end of the sholastic year the girls gave results worse than those they gave in the first month of teaching. And from the comparison between the work done during one hour in the afternoon in the first months of teaching (Tab. XI. and XII.) and at the end of the scholastic year (Tab. XV. and XVI.) we see that in the month of June the girls, if we except the first quarter of an hour, produced a greater quan-

tity of work, which was, during the whole hour, superior to that done in the same hour in the month of January. But the percentage of mistakes and their average for each scholar were higher in the month of June than in January.

From the comparison of the number of girls who did not make any mistakes, or only one or two, we cannot see anything interesting, but the highest number of mistakes found in each quarter of an hour was superior in the month of June to that found in the month of January. In this last month it was 14 in the first quarter of an hour, 22 in the second, 27 in the third, and 23 in the fourth, whilst it was 27 in the first, 26 in the second, 33 in the third, and 45 in the fourth during the work done in the afternoon of the month of June.

Therefore, also the results of the work done by the girls during one hour in the afternoon at the end of the scholastic year were worse than those obtained from the work done by the same girls during the same period of time in the first months of teaching.

And if we collect shortly the results obtained in all the experiments done, we see:

1st. That for the quantity of work done during each quarter of an hour we cannot have any interesting teaching from our experiments, if we except the results of the work done both by the boys and girls in the afternoon of the month of January. In both these experiments the production of work decreases continually from the first to the last quarter of an hour.

2d. That in all my experiments the percentage of mistakes, their average for each scholar, increased from the first to the last quarter of an hour. Also the highest number of mistakes augmented, but not so constantly, whilst the number of scholars who did not make mistakes or who made only one or two is without any rule.

3d. That in the experiments of the month of January, except in the first quarter of an hour, both the boys and the girls in the afternoon did a less quantity of work and worse in quality than that done in the morning; and altho the production of the first quarter of an hour was greater, the total

quantity of work during the whole hour was less in the afternoon than in the morning.

4th. That in the experiments made in the month of June we had constantly during each quarter of an hour in the afternoon a production of work that was less and worse than during each quarter of an hour in the morning.

5th. That the boys during each quarter of an hour in the morning and in the afternoon of the month of June did a greater quantity of operations than during the same time in the month of January, except in the first quarter of an hour in the afternoon of the month of June.

The work of each quarter of an hour in the last month, in the morning as well as in the afternoon, presented a greater percentage of mistakes, a higher average for each scholar, a less percentage of scholars who did not make mistakes, a higher number of errors and almost constantly a less percentage of boys who made only one or two mistakes.

The girls in the morning during the second, third, and fourth quarters of an hour in the month of June did a less quantity of work than that done in the corresponding space of time in the month of January; only in the first quarter of an hour it was greater in the month of June than in the month of January; but as we have already said, this result cannot be considered just; and in the month of June the percentage of mistakes and their average was constantly greater in comparison with those obtained from the work done in each quarter of an hour in the month of January. There was very little difference in the percentage of the girls who did not make mistakes and in the highest number of errors found in each quarter of an hour of work.

And during each quarter of an hour of work in the afternoon in the month of June, except in the first, the girls produced a greater quantity of work, and in spite of the less production during the first, the total quantity of work was greater in this month than in January. In the month of June the percentage of mistakes and their average for each scholar was always greater in comparison to those found in each quarter of an hour in the afternoon of the month of January.

We deduct nothing interesting from the comparison of the scholars who did not make mistakes and of those who made only one or two; but the highest number of mistakes during each quarter of an hour was greater in the month of June than in January. From my experiments I can conclude:

1. The quantity of work produced during each quarter of an hour presents no rule.

2. The quality of this work gets worse from the first to the last quarter of an hour.

3. The quantity of work done by the scholars during one hour in the afternoon is less and worse than that done in the morning.

4. The work done in one hour in the morning and in the afternoon in the last days of the scholastic year was almost always more but always worse than that done in the same period of time in the first months of teaching.

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VI

THE PSYCHOLOGICAL AND THE LOGICAL IN TEACHING GEOMETRY [1]

As one interested from the general educational side rather than from the technical mathematical side in the improved teaching of geometry, I venture to present an uncertainty which lurks in my mind after reading Professor Halsted's able and suggestive article in the December number of the EDUCATIONAL REVIEW.

The field in which the uncertainty lies is the matter of the relation of the preliminary more intuitive and sensuous geometry to the later rational and rigorous geometry.

It is a question how far it is possible to separate the intuitive and applied geometry from the logical and scientific geometry, simply in terms of an earlier and a later, so that the former is done with once for all by the time the latter begins. The question in my mind is whether, until the student has reached the distinct plane of mathematical scholarship (and probably even then in the case of discovery as distinct from proof) there is not recurrent demand for a return to considerations and data which do not possess strict demonstrative quality. Are we to have a purely elementary geometry, which is wholly intuitive, finish it up at once for all, and then pass at a bound to rational geometry? Or is the real problem of teaching geometry one of *continuous* modulation and gradation from one to the other?

There is no question that Professor Halsted makes specific allowance for a preliminary geometry which does not strive to be rigidly demonstrative. As he says: "The field

[1] Since this article was written there has appeared in print (*Science*, March 13, 1903) the identical address of Professor E. H. Moore, entitled "On the Foundations of Mathematics," which dwells upon the evolutionary character of all mathematics as a reason for not making too fixed separation between various branches of mathematics or between pure and applied mathematics. I wish to record my indebtedness to Professor Moore for various suggestions.

in education is a proper one, and has come to stay" (vol. 24, p. 457). And at the close of his article he makes specific provision for modification "designed to facilitate class teaching and aquirement by immature minds" (p. 470). At the same time he insists very properly that such modifications and sensuous elements be a kind which will not arrest the movement toward a more adequate scientific method; or, as he puts it, "The preliminary must fit the rational geometry" (p. 457).

These two limits give us a perfectly determinate problem. On the one side we have this consideration: What factors not valid in a strictly demonstrative sense are needed in order to assist the mind, which is only in process of becoming logical in general and of becoming geometrically logical in particular, in securing its introduction into, and vital familiarity with, geometrical subject matter? On the other hand, we have this consideration: How shall the extra-logical factor be so introduced as not to leave mental habits and preconceptions which have later on to be bodily displaced or rooted up in order to secure a proper comprehension of the subject? This way of stating the question certainly involves no controversy as to principle and so affords a platform upon which mathematician and educationalist may alike stand. This leaves teaching, as Professor Halsted says (p. 470), "a matter for the genius, the insight, the tact" of the individual author or teacher. Such an one must constantly consider from two standpoints what adaptations to the existing state of experience and of mental power are advisable: That of immediate efficiency of teaching, and that of relationship to the rigorous logical formulation which is the ultimate mathematical goal. Not every concession is to be accepted, even if it does seem to facilitate easier and quicker immediate apprehension, for this may be at the expense of continuous increase of comprehension, and hence not really learning at all. It is quite conceivable even to a layman's mind that supposed necessary adaptations are sometimes made which are not necessary and which obstruct later study. On the other hand no departure from

absolutely logical methods is to be condemned simply because it is a departure. If such deviation be necessary to bring the subject within the range of the workings of the pupil's power, it is not in truth a deviation: The longest way around is indeed at times the shortest way home. Recognizing the two limits, the problem is not whether or no concession and adaptation to present visual and motor experience shall be made, but what particular adaptations are advisable and necessary.

So far it is clear sailing. There is no uncertainty. But I am disturbed by reading upon page 457 that it does not suffice "to start with inaccurate statements and, as we advance, to modify them so as to bring them into accord with wider vision and more stringent requirements. We must from the beginning bring up ourselves and our pupils on not only the truth, but the whole truth." This leaves quite the opposite impression, viz., that no adaptations or concessions whatever are to be made. This impression is strengthened from the fact that Professor Halsted at once proceeds to criticise a number of specific statements even in geometries of the professedly preliminary type, on the ground of failure to conform with the present status of advanced geometric science.

For example, in the discussion of the conception of the straight line as the most direct path of motion there is no hint of use of the test of adaptation or availability to conditions of growth reached. No other criterion of condemnation is used save scientific invalidity. Such invalidity certainly is conclusive as to the inadmissibility in the geometry of the mathematical science; that is, of the student who has reached a certain stage. But the question remains: Just when and where is this stage reached? Is it found in the mind of the first year high school pupil? Of the average college sophomore? Or where? If Professor Halsted's article were simply on geometry and upon the errors of the professed geometrician, such questions would be quite irrelevant, but he writes upon the Teaching of Geometry. A logical hiatus appears in the condemnation of a given definition of a straight line (and of course the same holds in principle of any other procedure he condemns), unless it is also shown that defini-

tion is quite unnecessary from the standpoint of effective growth *into* mathematics. This gap may indeed be quite coverable; it may be quite possible to show how a logically adequate conception of the straight line can be brought within range of apprehension from the very start. But until this possibility has been demonstrated it is logically insufficient to condemn any given method merely because it does not square up with the requirements of rigorous demonstrative science.

To put the matter more positively, I should say that to bring up the pupil from the beginning on the whole truth is simply impossible. There are psychological as well as physical impossibilities, and the statement indicates one of them. To try to put into practice such a method is to develop impossible text-books and train impossible teachers. *Towards* the whole truth with all our heart; *on* it, no, because it is a meaningless requirement. The need and demand for teaching arise from the fact that the whole truth is not there to build upon. For a mind to build upon the very thing which it is the goal of its endeavor to obtain is surely the Irish bull of pedagogy.

The question of the correct definition of the straight line is a matter of mathematics alone. A psychologist encroaches on such a field only at his deadly peril. But there is need for making clear the fact that the content of a given book or lesson for a given grade of pupils is not a matter of mathematics alone. It is a psychological matter as well, and upon such points educationalists who work upon a sound psychological basis do not transgress in expressing a judgment. The psychological questions involved may be reduced to two:

1. What organs of apprehension and interpretation does the student bring at a given time to the mastery of a particular topic? 2. What further mental modifications are induced and what reactions set up by the process of learning which the student employs?

1. What the student actually learns is not what is in the mind of the author or teacher who propounds the definition: What the student learns is what the proposition means to

him. This is certainly a truism. But it becomes a vital statement when we recall that what a given statement means to a pupil depends absolutely upon the interaction set up between the topic presented and the habits which the pupil brings with him to it. It is a question of interaction, and the content of the final mental state in a net resultant of both factors. Because the conception that two points determine a straight line satisfies the logical conditions of the mathematical mind, it does not inevitably follow that it satisfies the psychological condition of a sixteen-year-old boy or girl, even with the maximum of explanation which the intelligent and clear teacher may give. The formal and verbal definition is the same to the expert and to the pupil; the mental definition (the measure of the actual learning) may be very different. It is even possible that the only meaning which the statement has to an intelligent beginner, working under the most favorable conditions, is suggested by Professor Halsted's statement that the assumption that two points determine a straight line "may be taken as authorizing the *graphic* designation of points and the *graphic operation to join* two designated points by a straight" (p. 468; italics mine). It may be the operation of drawing the line, and seeing it as it is drawn, which affords the actual mental content, or definition psychologically considered. In this case the student nominally employs the same definition that the scientist uses; but none the less he conceives the straight in terms of motion (symbolized by the drawing of the line) and of directness of course (symbolized by the track which marks the path of the moving point). If such be the case then the student is utilizing exactly the notion which Professor Halsted condemns, and nothing has been gained by a mere shift of terminology. If this notion is so abhorrent to mathematical logic that it must be avoided at all costs, then the problem is to secure such conditions of teaching as will prevent the student from employing terms of movement, and of course or track traversed, in realizing for himself the notion under consideration.

It is barely possible that even the advanced mathematician gets along without the addendum of reference to motion just

because he has so thoroly defined its conditions that the reference no longer affects or modifies any particular operation or result. Accordingly it is more economical to exclude it deliberately in a uniform way or by principle; that is, by methods which finally define the possibility of motion itself in terms of other definitions and axioms. Putting the point in a less paradoxical way, it is conceivable that the advanced mathematician gets on logically without any reference to motion, just because his abstraction from the original concrete conditions of reality has been so perfected that all the terms he now consciously uses are those which are exclusively determined and constructed by means of his own previous abstractions. This certainly represents the logical ideal, complete control, no data, elements, or conditions operating excepting those which have been intentionally introduced and formulated. For this very reason it would be equally legitimate, I suppose, to begin with definitions and axioms of motion and arrive at conclusions in a reverse way. All that remains is for the scientist to play his own game according to the rules and conditions which he has himself determined. All this, of course, implies an original abstraction from, and *hence conscious reference* to, the complex conditions of reality, and demands a series of intervening similar abstractions of constantly increasing remoteness. The learner, of course, is at the other end of the series. *His* problem is not that of conforming a new construction to conditions created by previous abstractions, but that of overcoming the difficulty of making any abstraction of the sort desired. In all further steps as a learner he has to look both ways. On one hand, in order to abstract successfully from reality he has consciously to present that concrete reality to himself; he has, if you please, to be sensuous and intuitive and applied (that is to say, psychological) rather than abstract, demonstrative, and rigorous (that is, logical). But he also has to direct his further procedure in conformity with abstractions previously made and their resulting conditions. He has to abide by them and to harmonize his further endeavor with them. In so far he is logical. Anyone who gets hold of learning as a continuous process or

movement of this kind will, I am sure, have with respect to principle no difficulty in reconciling the psychological or pedagogical statement with the scientific and logical; his difficulties may be numerous enough, but they will be in the region of detail, of practice, not of theory.

To return to our example: It is conceivable that the conscious recognition of a path of motion affords just the sort of combination of reference to concrete experience and to logical abstract as fits it to be a working tool for effecting transition from the unanalyzed complexity of present experience toward the defined control of greater abstractness. Relative to the pupil's *previous* experience, the conception of a path of motion is an abstraction; one, indeed, which offers considerable difficulty. The student has had plenty of experience of moving bodies, but may never have had occasion to discriminate between the moving body and the course it takes, the path it traverses and describes. Quite likely, too, he has had no occasion to conceive of motion reduced to lower terms, and defined as the track of a point rather than as that of a solid.

The point under consideration comes out clearly in the quotation from Laisant (p. 446) to the effect that the definition of a straight line as the shortest distance between points is *incomprehensible* to the beginner. The context clearly shows that this incomprehensibility is logical, not psychological. The idea of shortest distance certainly involves another idea, the length of the curve; and this in turn is capable of definition only as the limit of the sum of rectilinear length. These two considerations are certainly conclusive from the logical standpoint as to the impossibility of final comprehension. Logic, one may say, *is* comprehension; and what is il-logical is *ipso facto* in-comprehensible. But there still remains the psychological question: At what stage of development of an individual mind can logical comprehension of this type be secured? The problem of the beginner is not that of comprehension so much as that of apprehension—that is, of vital introduction to and assimilation of a new fact or idea. Taken on this score, it is possible that the

notion of a straight line as the track, or course, or path of a point in most direct motion is not only comprehensible, but offers the maximum of comprehensibility. Speaking from the standpoint of an individual mind, such a notion may involve more actual abstraction and generalization than would for him the definition that satisfies the accomplished student. In previous experience the conception of a line has been bound up with a large number of other considerations which are irrelevant from the standpoint of geometry, and which accordingly must be deliberately excluded. If the conception of a straight line which is so unsatisfactory to the one who has surveyed the field, who has compared straight line and curve, is the most effective tool to effect this abstraction, then, in teaching it cannot be dismissed simply by reference to the logic of the mind that adequately realizes all the conditions which determine the outcome.

2. I mentioned a second test on the psychological side: that of the mental disposition, of habit-tendency, created in and thro the act of learning. We have to consider the whole mental attitude set up by reaction to a given mode of presentation. Some minds are probably well adapted to consider strict mathematical relations, on their own ground, at quite an early age. It would be strange if there were not some to whom the strict scientific treatment appeals in some or in many topics at the age of sixteen, or even of twelve. The mathematical diathesis is doubtless as real as any other. It is certainly a mistake to keep such pupils on a less strong diet than they are able to digest and grow upon. But what of the others? What of those whose interest in this mode of instruction is restricted? Those to whom the game of absolute logic does not appeal, those who are not called to ascend to the higher levels of science, or ever perhaps to reach much control of geometry as a pure tool? Mathematicians as mathematicians are not called on to reckon with this class; but those who are concerned with teaching must take them into account. In the case of such minds a premature introduction to logical niceties and scientific accuracies simply increases intellectual and emotional repugnancy, and tends

to induce habits of resort to mere memorizing, to tricks of recitation, to all kinds of evasion, mental and practical, or even to downright cheating; and finally to aversion to all further pursuit of subjects that even suggest the disagreeable experiences associated with mathematical learning. In other words, a method which is somewhat loose from the logical side (and this once more means simply the standpoint of the matured mind, surveying the whole field as a single inter-related whole,) may be strict from the standpoint of present possibilities and also of impetus to further growth. There may be students who can secure from resort to algebra, to arithmetic, to mechanics, to graphic device, and to scores of resources that are not vigorous, mental discipline, mental activity and a growth in mental power not otherwise to be secured. There may even be pupils for whom to stretch a string, to drop a plumb line, has more *ultimate* logical worth than would be got by the original definition of a straight line as determined by two points, apart from reference to motor and visual experience.

If such things be true (and the emphasis is upon *such*) a further question arises: Whether the supposedly logical element of formal definitions, etc., may not be overdone in geometries of the prevailing type, so that (while improvement is to be expected in one direction by resort to stricter methods) reform may come from dropping some of the present show of scientific vigorousness. A psychological apprehension as distinct from a logical comprehension is valuable when it marks an advance over more imperfect intellectual attitudes and when it gives impetus to some further intellectual control. Why not, then, deal frankly with teaching on this basis? The definitions in the average text-book now used, whether or not they measure up to a strict standard, at least usually claim to present the matter in rational form. Might not better results be reached in many cases if notions were proffered not as making any such profession, but simply as statements of the point of view already reached and as leading on to a working method for future use? This standpoint would not, of course, exclude specific verbal formulation. On the contrary, a

proposition would naturally come in to summarize the result reached,—tho even here due opportunity should be provided for pupils to try their own hands at making the summary statements. But the formulæ should be given in such a way that the student would recognize that they are provisional resumés and working hypotheses, not definitions purporting to possess finished logical worth.

Even here, in frankness, I must express my doubt whether the definition of even the competent mathematician is absolutely logical in any other sense than answering to the status of mental growth, mastery of methods and problems reached by him, in the same sort of way that the relatively rough and ready notion of the beginner answers to the growth and needs of the latter. I would suggest that the distinction of psychological and logical is after all only one of historical periods in a process of growth, and is a distinction having meaning when periods taken in their sequence may be contrasted, but not when taken barely in themselves.

This, perhaps, is introducing a topic of possible controversy; if so, it is unfortunate. For in the former considerations I see the possibility of an *eirenicon* between the scientific mathematician and the educationalist, so far as relates to practical matters of teaching. The former, as I understand it, quarrels with many of the definitions and methods of current text-books and teachers because they are illogical, some of them almost to the point of self-contradiction. Very well. The educationalist also quarrels (and in the main at much the same points) because the definitions and methods are not well contrived and selected from the standpoint of psychological adaptation. There is some truth in the belief that a current text-book is neither one thing nor the other. Trusting to Professor Halsted's authority, it lacks much of true geometric character; trusting to the belief of many educators, its *profession* of scientific rigidity, its claim to use absolute logical methods, prevents a free use on the part of the pupil of his own experience and its flexible employ in apprehending the matter presented and in getting a tool for further effective control. Surely, when we

claim to have the scientific standpoint, that of rational statement and development, then we should have it in its purity and absoluteness. But in the degree which this is impossible, we should not allow pseudo-science or any inheritance from the past history of mathematics, or any imitation at several removes of present mathematical concepts, to come between the teacher and the freest possible use of all matters and methods that will facilitate learning, and that will stimulate the growth of power of mathematical abstraction and generalization.

It is the halfway state, the compromise in present methods, that makes much of our difficulty. To the educator's eye, these are largely unpedagogical; to the mathematician's they are, it would seem, more or less unscientific. Wherever possible let geometry become more rigorous; wherever this is not possible, let us drop a pretense of logical quality which only loads us down with an outward and cumbrous apparatus, and content ourselves with doing whatever under the circumstances can be best done from the standpoint of teaching. A state of things which is neither rigorously logical nor yet justifiable psychologically, should not be permitted, with high-school pupils any more than with elementary, to prevent personal acquaintance with experiences which call for the use of geometric statement, nor familiarity with concrete applications of geometric principles. When the pupil is not capable of grasping the axiom or definition in the form logically required, it would appear to be better not to hamper him with a formulation which seems to be scientific but is not really so. Permit all such matters to remain more or less fluid, taken for granted practically rather than stated as logical assumptions, and there may be both an increase of present interest and of adequacy of apprehension, and also less obstacle to further developments of a more rigorously demonstrative sort.

It does not seem possible to draw a fixed line between the primary- and the grammar-school pupil; between the grammar- and the high-school pupil. At each point the pupil needs whatever of formulation and definition he is capable of really

grasping, and whatever introduction into strict deductive reasoning he is capable of. But he also needs the habit of looking at definitions and propositions with reference to the real experiences which they express. He needs to see in them a sort of language in which the various symbols have meaning, not only in relation to each other, but also as expressing the experiences of life. More than any other one thing it would seem as if the high-school pupil, in particular, were at the point where his greatest need is neither merely intuitive nor strictly demonstrative geometry, but rather skill in moving back and forth from the concrete situations of experience to their abstracts in geometric statement. If the teacher be sufficiently imbued with the standpoint and methods of rational geometry, and yet remember that he is a teacher and not merely a mathematician, there is little ground for fear that progress in demonstration will not be as steady and rapid as circumstances really permit.

Not the least value, then, of Professor Halsted's article, to my mind, is that it condemns those books and teachers that profess logical rigidity and yet come short of it. Thus it should allow free scope to the principle of adaptation to conditions of need and growth. The point that I would urge as supplementary is the need of modulation in transition from the more intuitive to the more demonstrative phases of the subject. It is difficult to see how, short of having already become a mathematical specialist, some recourse to illustration and application in experience can be eliminated. Indeed, I am told that even in the very highest phases of mathematical inquiry there are still some matters in which even the trained mathematician finds it advisable to resort to intuitive constructions.

If this problem of modulation had been borne in mind more definitely, I do not think the "Perry Movement" would have come in for such apparently unreserved condemnation. It is the *teaching* of mathematics that the Perry Movement is particularly concerned with. To criticise that movement as to certain possible shortcomings from the standpoint of perfected mathematics is not entirely to the point. Im-

provement in the teaching of geometry is certainly dependent upon those who concern themselves with its more rational formulation and rigorous sequence. But it is also dependent upon those who look at it from the standpoint of common sense or ordinary experience; from its various practical applications in everyday life to technology and utilitarian ends; and upon those who ask for elements in the experience and intelligence of the pupil which may make his mathematics more vital to him. These two groups should co-operate with each other; not line up as hostile camps.

The serious problem of instruction in any branch is to acquire the habit of viewing in a twofold way the subject matter which is to be taught day by day. It needs to be viewed as a development *out* of the present habits and experiences of emotion, thought, and action; it needs to be viewed also as a development *into* the most orderly intellectual system possible. These two sides, which I venture to term the psychological and the logical, are limits of a continuous movement rather than opposite forces or even independent elements. First and last of all, moreover, we need to recognize that while this is a movement which mind in general passes thru, it is a movement which the minds of individual pupils are concerned with in very different degrees. Some minds are so framed to take an interest in method as method. Such pupils should have every opportunity to carry the interest with a purely logical statement and deduction to its *Ultima Thule*. But there are many other individuals (probably a considerable majority of mankind taken in gross) to whom considerations of method will always remain valuable chiefly because of their instrumental significance—because they are tools in the region of application, invention, construction, and for interpretation and further use of what has already been invented and constructed. It is a social wrong under the name of pure science to force such minds into paths having next to no meaning for them, and which consequently lead next to nowhere.

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VII

SOME EDUCATORS I HAVE KNOWN (II)

THE NATIONAL COUNCIL OF EDUCATION

In 1884 I was chosen a member of this body. As a member of this organization, I have come into close contact with many of the most prominent educators of this country, and consequently I have enjoyed excellent opportunities of hearing many distinguished men present their views on various educational topics. It was not far from this date that I began to take an active part in the superintendents' meetings, and here again I formed a large circle of acquaintances, especially among the younger and more ambitious superintendents in the smaller cities. There was also another class of educators with whom I have been on the most intimate terms, the normal-school men, perhaps owing to my pronounced opinions in favor of the great work those persons had done and were doing to supply the country with good teachers. They were studying how to teach and present the subject matter to the child and when it should be given to him—better and more rationally than any other class of workers. The college and university men formerly, with few exceptions, never mingled much with the common toilers, but rather held aloof, not intentionally, but from a long line of hereditary influences which had grown into the habits of apartness and growling. A few here and there, however, were always among us and with us. Their example "about-faced" the more conservative, and now they are, that is all the growing ones, as other people—not separatists.

To speak of all the men I have known in these departments of educational activity would be to write a biographical dictionary of American education for the last twenty-five years.

EMERSON E. WHITE

When I first met Dr. White he had written an arithmetic, and he was the first author I ever saw. It was at the session

of the National Educational Association held in St. Louis, 1870. Dr. White, Superintendent J. P. Wickersham, W. D. Henkle, John Hancock, and Professor Truman Safford were sitting at dinner in the Laclede Hotel, and I sat at a table near by listening to their conversation. They were discussing compulsory education. Dr. White and Superintendent Wickersham did not favor it, while some of the others were rather enthusiastic. I listened with deep interest, because they were all great men in the educational world. I would call the discussion now an exchange of views in a friendly conversation.

There was no one to introduce me to any of these gentlemen, but I felt that I had some little grounds upon which I could make myself known to Messrs. White and Henkle—so when these gentlemen went to the office, I introduced myself to Dr. White, saying that I had taught his arithmetic, and he in turn introduced me to Superintendents Wickersham and Henkle. The next day on a trip to Iron Mountain I had a conversation with Mr. Henkle, and when I told him that I had worked thru his *University algebra,* he said, "Well, you found it as tough as bull beef at a penny a pound." This was the only time that I ever talked with him, and the only time I ever saw him. His conversation impressed me as that of a jolly fellow who had picked up and dived into more hidden and obscure things than any other man I have ever known. His knowledge was very exact, and extended over a large area of disjointed facts which he took special delight in explaining. His mental accumulation was a wonderful collection of *Notes and Queries,* and perhaps not altogether unlike De Morgan's *Budget of paradoxes.*

Dr. White always moved on another plane. He always took a high and serious view of all questions connected with school affairs, keeping continually in mind what would be best for the educational development of the boys and girls of this country. He stood for both the practical and the culture side of education on a high moral and religious basis. His mind was analytical, practical, clear, and his convictions deep rooted in the higher elements of human nature. His aim was

to make teaching the highest, most skillful, and most important art by which men and women, consecrated to their work, can ennoble and dignify human nature. His mind was of the John Calvin type, as was manifested whenever a question was raised in connection with the organization of the National Educational Association or of the National Council. In my judgment, he and Superintendent Gove have kept more closely in touch with the spirit of those who founded both these organizations than any other men in this country. As James Madison is called the Father and Expounder of the Constitution of the United States, so I would call Dr. White the Expounder, if not the Father, of the Constitutions of these two educational organizations.

Some years ago I visited him at his delightful home in Columbus, and one thing that I noticed in his educational library was the large collection of bound school journals and magazines. He had about everything of any value that had ever been published in this country, and so placed that he could turn instantly to whatever he wanted.

Dr. White's mind was so constituted that when a new proposition was brought forward with seeming plausibility he immediately began to take it to pieces to find out what old elements were involved in it, and to separate the old from the new. Frequently an analysis after he made it left no new element to be considered. One great hindrance to real progress in education is that of experimenters, not knowing what has been done, who strike out on new lines which have been exploited and cast aside in different localities as utterly worthless. Probably nine-tenths of the new brought forward is not new, but a revamping of some old worn-out device. In the most courteous manner possible the doctor pricked such educational bubbles and then left them collapsed. Some think he was a little inclined to be distant, if not austere; nothing could be farther from the truth. He was kind, genial, sympathetic, and just as tender as a woman in his feelings. His words were always encouraging, and his faith in the triumph of truth boundless. He was the veritable Nestor whom we reverenced for his wisdom, justice, and knowledge.

GEORGE HOWLAND

George Howland had been a teacher thirty years before I spoke to him. He had been superintendent of the Chicago schools a year before I met him. I had two persons in my mind during that interview, Duane Doty and George Howland. Once I had called on Superintendent Doty, and, finding him to be a good fellow, I mentioned his "educational aphorisms and proverbs" that had recently appeared in the school journals. He laughed as heartily as one could under the rather embarrassing turn the conversation had taken. He was a bluff, rugged-looking man, but it was all on the outside, because I found him a very genial, ready conversationalist and quite ready and willing to talk on school questions. One had not to pull and pluck out an idea here and there and get monosyllables for sentences. I came away with the feeling that he was a good fellow and one of sound judgment, and that when an opportunity offered I would see him again. I liked him. Such were my thoughts when I mounted into George Howland's office the first time. When I entered he was engaged in conversation with one of the grade teachers who wanted assistance in the management of a troublesome boy. The case was disposed of, or halfway so, and she was advised to try another line of tactics, as the old man did in the spelling book when he found a "rude sauce-box in his apple tree." The teacher retired with a far-away look on her face, and I walked up, hat in hand, and introduced myself. He looked at me a moment, took hold of my hand, and said, "Greenwood, I am glad to see you; sit down. From your articles, I had thought you to be a great big, fighting fellow, but you are not." Right then and there our friendship began and never diminished. We soon drifted out into books new and old; his taste was literary, and in that atmosphere his mind dwelt. He stood for broad culture among the teachers of Chicago and elsewhere, and in our talks ever after the chief topic was books —the greatest that had been written. He appreciated the beautiful and the elegant in writing. His taste had been developed and trained in his younger days in the New England

atmosphere, and out of it he had imbibed the best. To see him at his best, however, it was necessary to sit with him and two or three others in a quiet nook somewhere, and listen to the interchange of opinions. No difference whether he was speaking of a book or his boyhood days in New England, his conversation was always charming.

Three of us were early risers, Superintendents Howland and Dougherty and Greenwood. During an educational association it was no uncommon thing for us to be up of a morning at the hotel before the office was scrubbed. Many a morning hour have we three sat around and talked over all sorts of subjects—chiefly of an educational character. This practice of early rising was drilled into each of us automatically when children. While some of our more sleepy companions twitted us with trying to oversee the hotel management, yet our chats were just as lively and perhaps a trifle freer than when the audience was larger.

What made George Howland dear to the teachers of Chicago was his sane judgment and his absolute fairness. He was no trickster. He was honest. There was no trace of treachery about his nature. He believed in solid study and sound training, and he knew no short cuts to learning. Never shall I forget when he had an attack of vertigo at the St. George Hotel in Brooklyn when Superintendent Gove and myself took care of him, and finally brought him to another hotel in New York. After working with him for some time he recovered enough to say, "Boys, it has been a pretty close call." Not long after that I read an account of his death.

EDWARD BROOKS

Among the normal-school men Superintendent Edward Brooks exerted a greater influence over my methods of teaching mathematics than any other man in this country. I never saw him teach a class, but I studied his writings and especially his remarks scattered thruout his text-books on how to teach the elementary branches of mathematics. His mind worked logically from data given, and in language that never over-shadowed the thought it conveyed. He appreciated most

clearly the difference, if I may so express it, between the cart and its cargo. In the model solutions of problems he went at what was to be done in the most direct and common-sense manner, and whatever he did carried with it the delicate touch of the literary artist. It was not till the Topeka meeting of the Educational Association in 1886 that I met him personally, and at first sight it seemed to me that I had always known him. I was pleased indeed to find him a refined gentleman of wide culture—interested more in literary and kindred subjects than in mathematics. As a city superintendent he represents the cultured scholar, and not the narrow specialist. For a quiet chat I do not know a more congenial companion and one who holds in the background a more sharply defined and well-proportioned educational perspective. The same calm judgment displayed in business affairs, enables him to estimate a teacher's work at its correct value. As John Richard Green points out in one of his letters to E. A. Freeman that a historian ought to be able to pick out the big facts from the little facts, so Dr. Brooks always knows the big facts of teaching from the little facts.

AARON GOVE

Aaron Gove is the best educational, financial city superintendent in this country. Persons who have not measured and tested him on all sides know little of him or his splendid resources in school supervision, judgment of school work, planning the construction of school buildings, or devising ways and means of solving financial difficulties arising out of school conditions. Some school superintendents have little or no business capacity whatever, and more school wreckages have been caused on this account than all other causes combined in connection with school supervision. School boards, while continuous as an organization, are temporary in their constitution and functions. If people think a board goes too far, it is displaced in a year or two by a more conservative body. If a superintendent has not business ability to point out to a board what is necessary, and what would be extravagant, in the appropriation and expenditure of money, then he

may have to change every time adverse sentiment sets up. Frequently school boards must be saved from themselves, and a cool, level-headed business superintendent is the only person who can do it. When a community comes to the conclusion that a school board is extravagant and the people believe that they are not getting value received for the money expended, dissatisfaction becomes widespread, and there is no way to head it off, except by the election or the appointment of a new governing body. Looking far ahead and keeping his schools up to the highest notch of educational efficiency, and knowing just about how much teachers and pupils can do and neither be injured, Aaron Gove is certainly one of the most expert men our country has yet produced. He has studied citizens, teachers, and pupils in the concrete, and he knows human nature, the genuine article as it is, better than all of us who have been laboratorying, pillorying, and labeling the specimens for the last fifteen or twenty years.

One of the curious coincidences of educational differences and agreements I will refer to here. Dr. G. Stanley Hall has been trying, as I take it, to change motherhood in this country to the short, stout, stocky breed of people from out of the lithe and willowy Yankees. The subject has been running topmost in his mind for a long time, just as astronomy did in Mazzini's scheme of making something out of man. Now, Superintendent Gove has been very outspoken for years, if not as pronounced as Dr. Hall, in regard to the kind of education our girls should receive. Just touch him up on this phase of education, and he thrusts aside his high tragic air and grows eloquent immediately. It is not at all improbable that he and Dr. Hall will yet produce a joint volume on Female Education. This is an aside, however, and should not be taken too seriously.

Of all the prominent educators that I have known, I place Aaron Gove as the most sensitive, the clearest visioned in estimating public opinion, the most critical, and one of the best judges of graded school work that we have. In financial and administrative ability he has no superior. At heart he is one of the kindest and truest men that ever lived.

ANDREW S. DRAPER

My acquaintance with Andrew S. Draper dates back to a meeting of the Right Worthy Lodge of the Good Templars, held in Boston in May, 1873. This was the first time I ever saw the Atlantic Ocean. It was during this visit that I wandered into Harvard College, described in a former article. Judge Draper was one of the delegates from New York and I was one from Missouri, and we met annually till the time Senators Conkling and Platt resigned their seats in the Senate of the United States and went before the Legislature of New York for indorsement. President Draper was an ardent Conkling man—a member of the General Assembly, and he wrote me that he could not be present at the approaching session of the Grand Lodge. We then drifted apart till he was elected State Superintendent of New York. When he was chosen, a howl big and loud went up from many of the throats of the school men of the Empire State, and I thought it the right thing to do to say a word in behalf of my friend, and I wrote an article for the *New York School journal* in which I stated that Andrew S. Draper was a well-balanced, level-headed lawyer, sensible and judicious, and that he would perform the duties of the office with intelligent discrimination, and that he would reflect credit not only on himself, but also on the cause of education in the State. The howl had by this time swelled into a roar about paying off political debts, ignoring the fraternity, and my well-meant letter went straight into the "waste-basket." As I watched the *Journal* each week, I thought of the "ship that never came." However, the New Yorkers accepted ungraciously the inevitable, and when the State Teachers' Association convened and Judge Draper read a paper before that body, then the "I told you So's" came trooping to the front. The result of this political appointment simply proved that even a layman who had been educated in the public schools of his native city, and had served as a member of the board of education, might achieve great success as an administrative officer and grapple successfully with the details of a great educational system. His public life is a mat-

ter of general knowledge, and I need not enter further into it in this sketch. Consequently, I shall speak more particularly of the strength of his character and the clear vision of his judgment and his ability to mingle with and influence people. First and foremost I shall mention his practical common sense. He sees clearly how things are, and what it is possible for them to become, and the means at command for bringing conditions to a satisfactory conclusion. He neither underestimates nor overestimates difficulties. He goes on the principle of mechanics. If an obstruction has to be moved, it requires the application of so much force to remove it. His mind dabbles not in philosophical or psychological speculations and hair-splitting distinctions, but proceeds to group and handle conditions as they exist, keeping in mind the common people and the teaching force and the children. In estimating his strength, I place it to the credit of his large organizing power, and his ability in presenting an argument in a simple, direct, forcible, and practical manner, augmented by deep underlying moral and legal principles based on common sense and individual experience. It is never a difficult task to ascertain how he stands on any public question. In no sense is he a trimmer. If a position is wrong in his judgment, he does not hesitate to say so. After he has once thought out his plans, he knows how to follow them logically to a conclusion, and yet he is never so biased by his own judgment that it would be impossible for him to change. When he reaches a critical point he knows whether it is better to hold on or to let go. In some respects he reminds me of Thomas Jefferson—a man of very decided convictions and always willing to trust to the common sense of the people if the matter was placed before them in its proper light. Mr. Lincoln had this deep insight and he always trusted the people, and he kept this fact in the foreground whether in the cabinet or on the rostrum.

When Judge Draper went to Cleveland there was a secret feeling among the educators of Ohio that he had sought the appointment, but that was not so in any sense whatever, as Mr. Frank A. Fitzpatrick and I both know beyond all shadow of a doubt, and neither would Judge Draper consider the proposi-

tion till he knew definitely that Superintendent Day could not be re-elected. Cleveland had reached a point where it was deemed advisable to try a new departure in school organization, and in looking about for a man to launch the craft Mr. Draper was chosen as the most suitable captain.

Cleveland had decided to strike out on an unknown voyage, and Judge Draper was elected to pilot the craft into calm waters—to put it in good working order and popular favor. There was not another educator in the United States better equipped for this undertaking. A splendid mixer with the people, a strong, decisive character, of deep earnestness and great working power, he pushed ahead, carrying citizens and teachers along without difficulty. He demonstrated the feasibility of such an organization and how it could be made to touch with great pressure on all points wherever stress should be placed. There was one point, however, to deal with which Judge Draper's previous experience had not fitted him, and that was the detail work of the schoolroom. So that when he had put the machine into good working order on all sides he wisely stepped aside and took another position more congenial to his tastes than helping teachers straighten out cases of discipline, placating irate parents, and watching a carping press.

Every position Andrew S. Draper has occupied he has filled with honor. Whether as State Superintendent of New York, City Superintendent of Cleveland, or President of the Illinois University, he has measured up to the highest standard of American manhood. Were I to pick out good gubernatorial or even presidential timber, Andrew S. Draper would be my first choice.

LEWIS H. JONES

Superintendent Jones supplied the element that President Draper lacked—experience in the schoolroom as a teacher and a helper of teachers. The teaching force is the agency thru which the work in school must be carried forward. The mechanical organization may be as complete as possible, the intention of the board of education may be directed along the

highest plane, the salaries liberal and paid promptly, but unless the teaching spirit is right and is directed along proper channels, the waste in instruction is immense. Superintendent Jones had been a teacher in the Normal School before he was elected to the superintendency of the schools of Indianapolis. There he came in contact with about all the diversified elements that a Western superintendent is heir to, and amidst it all he had organized the educational forces of the city till the reputation of the Indianapolis schools was second to none in this country. He was known and recognized as one of the ablest and safest men in the country, a thoughtful and careful student of the best ideas now held or that had been held by educators in historic times. Added to his reputation as a teacher is an endowment of a high and noble nature that had received embellishment from social forces. His character is a lovable one, and he advances his opinions with modesty. When he first appeared before the teachers of Cleveland, one of the lady principals of that city said: "When he began to speak we all felt that we had a friend in him." While I had been meeting Superintendent Jones annually, it was not till the meeting of the Committee of Fifteen held in Washington that I had a good opportunity to measure him all round. The work was parceled out among three sub-committees, but the real tussle was in the sub-committee composed of W. T. Harris, W. H. Maxwell, C. B. Gilbert, L. H. Jones, and J. M. Greenwood. The other two reports had been prepared in advance, and were read, discussed, and some few changes recommended. Our committee worked out the scheme in five days and nights, and discussed the propositions in a cold, bloodless way in a disagreeable room at the Ebbitt House. We could not agree on all points. Dr. Harris was unswerving in his views; Superintendent Gilbert was not quite sure just what he did want or what he stood for at times; but on every substantial point Maxwell, Jones, and Greenwood voted together without any previous understanding. Superintendent Jones was rather conciliatory, and he did more than any other member of the sub-committee to pull us together when we would get far apart. Dr. Harris must have said "yes,

yes, yes," a thousand times during the week, but his "yeses" did not always mean "yes"—he was just getting wind to pitch into something or to demolish someone's position. Frequently the gentlemen of the other sub-committees would give their individual views, and these would be accepted or rejected as the case might be. It was decided early in the session that a unanimous report contained no individuality upon questions that admitted strong argument on both sides, and each saved his exceptions in case it was necessary to use them when the report as a whole was licked into shape. Following the practice of the Council of Nice, or a Democratic or Republican primary, we voted on each proposition to get at a consensus of opinion. It was a week of the fullest and freest debate that I ever witnessed. Each said what he wanted to, or what he thought, when his time came to speak, with no one to hinder or to make him afraid. We were amazingly frank at times, and that was what Dr. Harris wanted, and in fact it suited us all. I took down the notes, and kept the original copy, from which the other members were supplied. Whenever we could not agree, we disagreed, saved the exceptions, and went on to the next order of business. At the outcome, we were not very far apart, as the report shows. In such a wide range of discussion, much of which could not appear in the report, the bearing of each of the branches on the whole curriculum of study thru the high school, college, and university, even out into active life, was considered. Perhaps no other educational committee of this country, none at least of which I have any knowledge, ever went over the ground so thoroly as did this one, and endeavored to trace each of the common branches back to its origin and function in our civilization.

It afforded an excellent opportunity to each member of this committee to bring to the bar of judgment his own contributions to the subject under discussion. While the subject dealt with elementary matters, apparently not difficult to handle, yet the breadth of the field traversed was broad and comprehensive.

The result of that week's work may be summed up in a single sentence—that the five of us left Washington with a

wholesome respect for each other's opinions. While others came and went during the week, yet we pounded away without intermission. Much of the discussion was in the nature of keen-cutting blades, and some partook of the nature of trip-hammer strokes. Whether one was hit hard or easy, it was taken good-naturedly, and on the theory that an opportunity would soon occur to get back with interest.

Superintendent Jones' mind is acute, penetrating, and acts quickly and readily, and he holds his reserve power well in hand. When pressed too closely, he is dangerous. He is too gentlemanly to be a rough-and-tumble debater. He prizes the amenities of life too highly for anything of that sort, and he always prefers to be impersonal.

WILLIAM H. MAXWELL

Superintendent Maxwell's mind works in a large way—apparently a little slow and ponderous in its movements and not always smooth running in its action. His manner of speech and of thought have been greatly influenced by the philosophy of Alexander Bain and Herbert Spencer—men who loaded both the instrument and the message it transmitted rather heavily. While with him the language and thought are both ponderous, yet he always manages to wind out his sentences in good shape and leave them spread out regularly before one. In thinking out a subject he moves cautiously, and when he once reaches a conclusion he stands by it, because of the truthfulness of the premises from which he had reasoned. For seeing a proposition intuitively or immediately, I feel confident that he possesses power in only a small degree; but for ascertaining the truth, he adheres, either consciously or unconsciously, to the methods so well outlined by Pascal and Descartes.

As a boy at school, he sat, as did all the other pupils, with his face to the wall, so that extraneous matters would not interfere with the preparation of his lessons. This was thought to be another advantage—that it enabled the master to get at the pupil's back more easily. It matters little whether he received his education from before or behind, he

believes in buckling down to close and persistent study, and it is only by hard work that anything of importance can be accomplished.

Superintendent Maxwell had introduced a resolution calling for the appointment of a committee to take into consideration the questions with which the Committee of Fifteen had to deal, and, as a consequence, he came to the meeting with his views pretty well matured. The other members had thought over the matters proposed, but had not gone far enough to be prejudiced in any direction.

CHARLES B. GILBERT

Superintendent Gilbert, as I have already mentioned, seemed to be undecided on many points. He inclined to what would be called a diffusive course of study which would lug in a modicum of everything; while not so expressing himself, this was doubtless the predominant idea seething in his mind. It should not be inferred that this particular sub-committee worked without consultation with the other two sub-committees. During the session nearly all the members were present, but each committee had its special work to do, and nearly all essentials were reviewed in detail by the entire committee. In general, the writer agreed on many points with Superintendent Balliet, yet differing widely from him on the literary unities that ought to be in school readers. All in all, there were fourteen different kinds of minds present a greater part of that week endeavoring to look steadily at a course of study based on the civilization of the race and the present needs of our children, a course that was workable, and, if fairly mastered, would put the child in a right attitude toward his country, in proper social relations with his fellows as a helpful and co-operative unit of the social whole, and above his environment he could go forward to realize his higher and better nature in spiritual power. Looking back over this meeting, as I do now, I think it was a great mistake that we did not have a stenographic report of all the discussions printed in the proceedings in full. To compare a small thing with a great one, we have the Constitution of the United States as it

came out of the Convention of 1787, but to know what the members thought, suggested, modified, despaired of, and then finally compromised on the agreement between Massachusetts and South Carolina—the actors and acts behind the stage—all this history must be learned from the debates and notes kept by the members from day to day. So it should have been with the report of the Committee of Fifteen.

J. M. Greenwood

Superintendent of Schools,
Kansas City, Mo.

(To be continued)

VIII

ACCIDENTS FROM COLLEGE FOOTBALL

Early in December, 1902, I sent a circular letter to the presidents of more than one hundred of the larger colleges and universities of the country, inclosing copies of the following blank with the request that they be filled out by the officer best qualified to do so, and returned to me.

_____Date

Institution_____

Place_____

	'93	'94	'95	'96	'97	'98	'99	1900	'01	'02
Male Students Enrolled.....	....	.. .	...	....	....	....	....	....	....	....
Number of Teams. (This would include 'Varsity, Class, Fraternity, and all others.).....	....	....	....	...	....	....	....	....	....	....
Approximate Number of Students who tried for places on any of these teams, *i. e.*, total number who played football..... ..	....	....	...	....	....	....	. ..	....	....	....
Number dead from effects of game.....	....	....	. ..	....	....	....	.. .	....	....	....
Number permanently injured...	....	....	....	....	....	....	....	....	....	....
Number seriously injured, *i. e.*, were forced to lose time from college work..... ...	. ..	....	....	.. .	....	....	...	. .	....	....
Was there competent medical or other supervision of training?	....	....	....	.. .	...	....	....	....	....	....

What is your opinion as to the value of the game?

Why?

Name_____

Position_____

The response was more general than even the most ardent advocate of the *questionnaire* method could have hoped for, and I wish here to thank the many in all parts of the country for the interest they have shown in this study, as expressed in various ways. In all, more or less complete returns were made from sixty institutions, including, with very few exceptions, all the larger colleges and universities of the country.[1]

Of this number 28 furnished the desired data for the entire ten years covered by the blank: Two for nine years, 1 for eight, 3 for seven, 5 for six, 4 for four, 2 for three, 4 for two; while 6 found it possible to give them only for the football season just passed. From five institutions letters were received containing general statements of averages, both as to the number playing football and injuries from the game, but these are not included in the figures given, save in the case of one permanent injury so reported. The following table gives a summary of facts reported, by years, with the exception of those for "permanent injury" and "death," which are discussed later in the paper. It cannot be supposed that these figures are mathematically precise. They cover conditions which are not ordinarily a matter of record, and which must, in many cases, be supplied from memory, but the statements are all over the signatures of competent college officers and are as valid as any which are likely to be obtained. To doubt them is to impeach either the judgment or veracity of those officers.

[1] The following institutions have figured in the present study, in most cases having furnished exact data which could be used in the tabulation: Alleghany, Annapolis, Bowdoin, Brown, Carlton, Cincinnati, Colgate, Colorado (college), Columbia, Cornell (college), Cornell, Dartmouth, Delaware, Ewing, Franklin and Marshall, Hamilton, Hampton-Sidney, Harvard, Haverford, Howard, Iowa State (college), Kalamazoo, Leland Stanford, Lombard, Marietta, New York University, Ohio (Athens), Pennsylvania, Princeton, Purdue, Ripon, Rochester, Swarthmore, Syracuse, Trinity, Tufts; State Universities of Arkansas, Colorado, Idaho, Illinois, Iowa, Maine, Michigan, Minnesota, Missouri, Montana, Nebraska, North Dakota, Oregon, Texas, Vermont, Virginia, Washington, Wisconsin, Wyoming, Western Reserve, Williams, Yale. Returns from the State Universities of California, Kansas, and Ohio, Lake Forest and Wesleyan (Conn.) were received too late to be included.

TABLE

Football Season	Male Students Enrolled	Played Football	Percentage Played Football	Number Seriously Injured	Percentage Seriously Injured	Teams
1893	10,972	1,222	11.1	40	3.3	81
1894	12,240	1,414	11.6	46	3.3	84
1895	13,911	1,617	11.6	40	2.5	100
1896	15,825	1,780	11.3	48	2.7	111
1897	19,338	2,251	11.6	52	2.3	136
1898	18,348	2,196	11.5	52	2.4	139
1899	23,802	2,586	10.8	67	2.6	149
1900	26,790	2,753	10.6	90	3.3	163
1901	29,710	2,980	10.	76	2.6	179
1902	39,398	3,967	10.	143	3.6	232
	210,334	22,766	*Av.* 10.8	654	*Av.* 2.9	1,374

As will be seen from the totals at the bottom of the table there were in the institutions covered by the study 210,334 annual enrollments of male students (*i. e.,* the equivalent of that number for one year), of whom 22,766 tried—successfully or unsuccessfully—for places on 1374 football teams. Of this number 654 were sufficiently injured to lose time from their classes, 8 were permanently injured, and 3 are reported as having died from the direct effect of the game.

In order to bring out more fully the relations between these facts, I shall discuss them as answers to direct questions.

1. *What proportion of the male enrollment of our colleges and universities play football?*

The first question was placed on the blank solely that this proportion might be determined. In some cases it was not answered, but the deficiency was supplied thru reference to the reports of the United States Commissioner of Education. Reference to the proper column upon the table shows that, according to our figures, the average percentage of male students who have played football the country over for the past ten years is 10.8: that is, about one student in ten. This proportion, I am convinced, is too small for those students who are so situated as to make football a possibility. In every case, the entire enrollment has been made use of in one term of our proportion, while in many of the larger institutions, as for

instance Harvard, Columbia, and Cornell, the professional departments are, either wholly or in part, so far from athletic accommodations as make participation in sports practically impossible. How far this should affect our proportion I do not know, but undoubtedly to a considerable extent. The percentages for the ten years taken separately show but slight fluctuation and little deviation from the general average, tho a slight falling off for the later years is noticeable. A study of the institutions from the standpoint of size shows that football is much more generally played in the smaller than in the larger. In the twenty-five institutions covered by my study, having a male enrollment at the opening of the present school year of 500 or less, 18.6 per cent. had played the game during the last ten years, while the percentage for the nineteen larger ones was but 8.3 per cent. Here again we may presume that the difference is due, in part at least, to the separation of the student body in the larger institutions. It is also, of course, true that, whenever football is played in college, at least twenty-two students must participate in the practice games, and this, in the smaller institutions, may be a considerable percentage of the student body.

2. *What proportion of the college students who play football are seriously injured?*

For the purpose of the present study I have made use of the criterion of "time lost from classes" as a measure of injury, simply because there seemed to be none other as good. The answer had to be made in terms of something definite, so this was chosen. It might be questioned, however, whether all injuries which keep a student from work are necessarily of such a nature as to warrant the use of the term "serious." I shall, nevertheless, employ it for want of a better.

Of the 22,766 students who have played for a season each, during the past ten years, 654 are reported as having been seriously injured as defined above: that is, 2.9 per cent. This seems an almost incredibly small number, but we cannot go back of the returns. It means, roughly, that one student in thirty-five of the whole number playing has received such an injury. Considered from another point of view: if each man

played in three games—a number altogether smaller than was the actual case, in all probability—his chances, on entering any contest, were less than one in one hundred that he would lose time from the effects of the game. If we are to suppose that each member of a team played six games—a number not excessive—the probability of injury is reduced to 1 : 200. Certainly not a risk which should bring many sleepless hours, even to the most timorous parent. On the whole, the table shows that injuries have been decreasing during the period studied. The larger number for the last season is due to the fact that one of the largest institutions of the country, sending returns for this year only, included not only those who were injured, but those who were "fagged out," also. The letter reads: "The number which I have set down, forty-four, represents all those who had to be taken out of the team, either as a result of injuries or as a precaution against them." This number affects the result quite materially; in fact, if the institution in question were left out of the tabulation, the percentage of injuries for the season of 1902 should be 2.7. There is nothing in the column showing the percentage injured for each separate year, to indicate excessive danger from the game as played under the rules of any particular season. "Mass-plays" may have been disastrous, but they fail to show here.

3. *What proportion of the college students who play football are permanently injured from the effects of the game?*

It is probable that in this class of injuries our figures come farther from showing the exact conditions than in the one just discussed. Altho I myself believe that the disastrous effects from overtraining in football have been much overstated in recent discussions of the game, and that organic diseases which show themselves only in the course of time are but rarely traceable to it, I am, nevertheless, willing to acknowledge that they have sometimes occurred, and also that they would probably not show in our figures, which cover permanent injuries only that are attributed to some particular accident. Of such, eight only have been reported. For four of these I have exact descriptive statements, which

I quote: (1) "Leg broken and badly set, causing permanent limp." (2) "Bones in ankle misplaced, can probably be set right by operation, yet I report it since it has been permanent to present time." (3) "The man reported permanently injured was a Freshman, who in practice this year was accidentally struck in the face and his eye injured so badly that he may lose the sight of it." (4) "The permanent injury was in a case of typhoid fever, recovered with abscess believed to have been caused by bruise on leg while playing in the first stages of disease." Of the other four injuries of this class I have no description. An analysis of those given indicates that the permanence of the first is due to poor surgery, and that of the second may be removed by good; that the third was, when reported, of but three months' standing, and that the fourth is attributable to a complication with disease. If the others are of the same character, football was accidental to them in more than one sense.

What, then, is the proportion of permanent injuries? One for each 2846 players for the last ten years; or, to show the relation expressed in the last case, on the supposition that each man played three games, his chances upon entering a given contest of being permanently injured are 1 : 8538, according to our figures. This proportion even is much too large, since statements of permanent injury and death covered in nearly every case the whole ten years, and in some the entire history of the game at the institution reporting. One of the injuries just described was, in fact, at a university which does not figure otherwise in the tabulation.

4. *What proportion of the college students who play football, die from the effects of the game?*

Whatever may be taken as an invalidation of our figures for permanent injuries would apply in the case of fatalities also. We must in any event conclude that the deaths have escaped us, or that college football is not so dangerous to life, in spite of the daily papers, as but three fatalities have been reported. For two of these I have the exact facts, as follows: (1) "One young man died from injuries received in a football game in 1899, but he had been forbidden by the Director

to play on account of a weak heart, and had been refused any place on the team. His injuries were received in a class game into which he went in direct disobedience of orders. Since that time there have been no class games." (2) "The death in 1895 was not on the regular team, but was in the case of a law student who played in a match game without training. Since then no one is allowed to play on *any* team without a permit of the medical adviser." The remaining death was in 1898, but I have no particulars regarding it.

In the matter of deaths from football, as I have been able to discover them, comparisons would mean but little: 3 : 22,766 is hardly capable of any other exposition. As was the case with the famous snakes in Ireland, the story must be short.

5. *What are the conditions relative to supervision of football training in our higher institutions?*

The answers show that in forty-two of the institutions reporting there has been competent supervision, usually by a medical officer, for the entire period covered; in eight, such supervision has been maintained for a part of the time, usually the later years, while in five no such supervision is had. Four institutions failed to report on this point.

For the institutions having no supervision the percentage of students seriously injured was 3.8, compared with 2.9 for all reporting. One of the deaths reported was in such an institution, and two of the four letters received, which are later in this paper classified as adverse to football, were from their presidents. Their records show no "permanent injuries."

The answer to the last question upon the blank, expressive of opinion as to the merits or demerits of the game of football as played in our higher institutions were particularly satisfactory, and indicative of a willingness on the part of college authorities to put themselves to a degree of trouble which the student of any educational problem cannot fail to appreciate. Covering, in some individual cases, whole pages, they form a mass of opinion on the subject which well merits publication in full. The limitations of the present paper, however, make it impossible to print at this time more than a few of the most characteristic expressions. In all, I have 58

such answers: 24 over the signatures of college or university presidents, 14 from the chairmen of athletic committees, 4 from athletic instructors, 10 signed by some other college officer; dean, secretary, or member of the general faculty. In one case the signatures of all the members of the athletic committee were attached. Their opinions I have divided into three general classes: 1st, those expressing nothing but approval of the game as now played; 2d, those expressive of modified approval, and 3d, those which are, on the whole, adverse criticism of the game. Of the first class there were 39; of the second 15, and of the third 4. The following are characteristic answers from each of these classes. In no instances have I quoted from the letter of an athletic instructor, believing that this officer might be more prejudiced in his judgment than any of the others.

First Class. (1) "Our faculty is almost unanimous in the indorsement of football. It develops manly qualities; it keeps the boys who engage in it out of dissipation, and makes them examples to the others; it promotes college spirit, and tones up the morals of the student body; it brings the students in touch with other colleges as nothing else seems to do; it affords a safe outlet for surplus energy that might be turned in other directions to the disadvantage of the students."—Chairman Athletic Committee.

(2) "Our faculty all believe in it. It makes men out of the players, and inspires the other students to win in what they undertake."—Vice President.

(3) "As game, unsurpassed. As physical exercise, moral incentive, and training in concentration of mind and energy, the game is invaluable."—Full Athletic Committee.

(4) "Great game. The best there is. I want my boy to play. Teaches grit, headwork, good temper, pluck, fellowship, and enthusiasm."—College President.

(5) "The greatest of college sports. Develops self-control, manliness, and true sportsmanship, to say nothing of college spirit."—Chairman Athletic Committee.

(6) "Value very great. As discipline, brainwork, self-

control, self-mastery, self-measurement. College spirit. Courage."—Acting President.

Second Class. (1) "So far as the effect on the physique and the morals of the men who engage in football is concerned, it is, on the whole, very beneficial. We all feel, however, that the game, as played just at present, makes too severe a demand on the physical powers of the men engaged in it, and this, of course, has its effect on the classroom work during the football season, tho not on their attendance."—Chairman Athletic Committee.

(2) "Opinion favorable, because it is an existing fact and cannot be removed without more trouble than it causes, and because, on the whole, its results are beneficial."—President.

(3) "We regard the game of football as other athletic contests, in the main helpful, but likely to be carried to excess and to bring with it some undesirable features. Under proper restrictions and control we believe it to be a good game."—President.

(4) "As to the educational value of football, I consider the game a very good one in theory, but at present, bad in practice. Foul play is possible at all stages of the game and few umpires can detect it, or having detected it, have the courage to take the men off the field. Then the strenuousness of the game is so great that men easily overstep the line of honorable conduct. My summing up of the situation will be that the game is too good to lose, but some radical measures are needed to make it fit for college grounds."—Chairman Athletic Committee.

(5) "The game has serious drawbacks, but is too valuable to be abolished. We cannot do without an active game in the fall. The present one is making for itself enemies who demand its abolition. Football has been played for six hundred years, and must be continued under reformed rules."—President.

(6) "Much more good than harm."—President.

Third class. (1) "It gives a good training to the strongest, who need it least, and does nothing for the others. It develops college spirit, but in a few cases every year it interferes with

the scholarship of a few. Severe training for a limited time does not, in my opinion, tend to permanent health and strength and prowess of continued endurance, nor is it injurious to those ends."—Dean.

(2) "I think it has very little value. Number engaging in it small; exercise too violent; physical benefit, if any, more than offset by neglect of studies during the season."—President.

(3) "In the overstrenuous way in which it is now conducted, the comparatively small number playing, the undoubted physical risk and the questionable concessions, savoring of professionalism, made directly or indirectly by most colleges to this sport, I doubt if the value of the game is worth the cost."—Chairman Athletic Committee.

(4) "Really, tho I'd like to do so, I cannot find much to approve in football as a college game. It is dangerous to life and limb; it does the mass of students no good, physically, and it brings into college life a train of demoralizing tendencies. Football fails, as I see it, to help the physical well-being of students, even those who participate most earnestly in the game. It strikes me as something wherein much energy is expended to but little advantage. There are many moral evils connected with it. Betting is more than occasional: it is quite common. Unfair methods are not exceptional. Deliberate efforts to put opponents out of the game are often winked at, if not encouraged. I wish I could view this matter from a more favorable point of view. I'd like to believe that my experience is the exception and not the rule."—President.

In the case of this last class of replies which are, on the whole, adverse to the game, I have given all that have been received; for the others, only a small proportion and those selected in such a way as to be representative of the class, rather than the most extreme cases within it. Altho I have already stated the exact numbers of answers of each class, this in itself does not indicate the weight which should be given to each, as based upon the size of the institution from which the opinion was received. Such a computation, however, shows that institutions covered by the first class of an-

swers have enrolled for the present year 21,435 male students; those of the second class, 12,371; and those of the third, 1911, while the average of such enrollment for the institutions of the three classes respectively was 735, 825, and 477 (for the four of the third class 130, 131, 300, 1350). From these figures it will be seen that the opinions, weighed in the terms of the number of students enrolled, are about 17:1 in favor of football as it is played or with slight modifications. I might add that those opinions which come from the largest institutions are less dogmatic, either in assertion of unqualified approval or disapproval, than are those from the smaller.

In computing the figures which form the basis of the present study I was struck, as the reader must also have been, at the discrepancy between them and the reports of football fatalities and serious injuries as they appear in our daily papers. During the football season, one can hardly pick up a metropolitan sheet without being stared at by one or more such reports, under heavy head lines. That the exact condition of affairs might be ascertained I wrote, early in January, to the coroners in the eight towns in which death from the game was reported during the past season in several most important dailies of the country, and also to the eighty-six persons who were similarly reported as having been seriously injured, asking full particulars. In the cases of reported deaths from the game four answers have been received, three stating that the report was entirely correct and that the fatality was wholly attributed to the game, but in no case was the player a member of a well-organized team in good training. The fourth stated that no such death had occurred, but that some years ago a man had been killed in a football game in his city. Another letter was returned unopened with the official statement, "No such post-office." Three are as yet unheard from.

In reply to the 86 other letters I have received 36 answers: 23 from members of college and university teams, 7 of public-school elevens, and 6 from those of various so-called "athletic clubs." Twenty-one letters were returned to me, uncalled for, indicating insufficient address.

Of the 23 college men, 2 stated that the report was entirely

erroneous, as they had been injured in no way during the past season. Of the remaining number 10 would not have figured in our tabulation, as no time was lost; 3 were out of the game for two days; 2 for one week, and the remainder for periods of from two to six weeks, suffering from broken collar bones or, in one case (a coach), from a broken arm, and another, a fractured leg. In every case recovery has been complete and the writer was in an apologetic mood for having so disgraced himself.

With the members of the public-school teams, the results have been more serious. One high-school boy is in an asylum for the insane, and the following from a proud member of an eighth-grade eleven indicates a wrench to his anatomy which is little short of startling. "My spine was injured and, when found, my head was between my legs resting on the ground. I was at the bottom of the pile. I was kept in the house for seventy-nine days." Of the remaining five, two were in the house one day, another two, and the others, one and two weeks each.

The members of the athletic clubs heard from seem, on the whole, to have had the most serious time of all. Two out of the six from their accounts had very narrow escapes from death, and were in the hospital for many weeks each. The others were incapaciated for periods of eight, seven, six (2), and one week, the greater number from broken limbs.

Serious as all this seems, we cannot but deprecate the tendency of the public press to cater to a timorous public by over-inflating their football news. Twice in two years, one of the foremost daily papers of our country has appeared with the scare lines "Football Player Killed" in the heaviest of black type, for no more valid reason in one case than the killing of an ex-football player by the cars at a grade crossing and the other, the electrocution of a player on a scrub team who had climbed an electric-light pole to remove the ball, which had by accident lodged in the lamp. Such mishaps should not be charged up to the game. Altho this correspondence has shown that grave injuries have resulted from the game during the season just passed, it is interesting to note that of the twenty-three college

players receiving newspaper notoriety, twelve were not in any way incapacitated for work, and every one has been on his feet for more than two months now.

In an attempt to supplement this study of accidents from college football by means of data covering other forms of sport, I wrote to several daily papers and a number of accident insurance companies for comparative figures. From one of the latter I received a little booklet in which more than 31,000 claims paid during the last five years are classified under several hundred heads. Altho there is no valid basis for a comparison between these figures and my own, since there is no means of knowing the number participating in the various activities without accident, they are nevertheless suggestive. They have I may say no direct bearing upon our study, since college students are not accepted as risks in the company.

The exact numbers of claims paid during the five years for accidents in certain sports were as follows:

Horseback-riding,	261	Gymnasium,	54
Baseball,	216	Canoeing,	49
Swimming,	97	Football,	43
Wrestling,	90	Skating,	36
Bowling,	71	Golf,	25
Hunting,	62	Boxing,	21
Tennis,	19		

As is seen, football seems far down even in this list, from which have been purposely omitted recreations like driving and bicycling, which are very generally participated in and with which comparisons would be manifestly unfair. We must conclude from the figures that unless five times as many play baseball as football the former must be considered the more dangerous form of sport. Whether this ratio would prove true or not, I have no means of knowing.

In conclusion I would say that altho I believe most emphatically in college football, I have no intention of pronouncing an encomium upon it in this paper. Even if scores of others had not been written, Walter Camp's little book would have sufficed.[2] Altho the advantages of the game have been

[2] *Football facts and figures*, Harpers, 1894

pretty fully measured in the past, its disadvantages have been largely unmeasured quantities. If the present study serves, thru a qualification of the single element of danger to life and limb, to make the sum total of opinion a larger plus quantity, I shall feel repaid for the labor.

The following summary may be of service in bringing together the main points of the paper:

1. About one college man in ten, the country over, plays football.

2. About twice as large a proportion of the men in the small colleges play the game, as in the large.

3. The proportion of men playing seems to be slightly decreasing.

4. About one player in thirty-five is sufficiently injured each season to necessitate loss of time from college duties.

5. The number of college football players who are permanently injured or die from the effects of the game is so small as to be practically a negligible quantity.

6. College football is adequately supervised in nearly all the institutions.

7. The opinions of college officers regarding the value of the game are, roughly, 17.1 in favor (weighed in terms of enrollment).

8. The newspaper reports of injuries to college football players seem to be grossly exaggerated. Not so much so in the case of players upon other teams.

9. Accident-insurance statistics would lead us to believe that many other forms of sport are more dangerous than football.

Edwin G. Dexter

University of Illinois

IX

REVIEWS

Higher mathematics for students of chemistry and physics—By J. W. MELLOR, D. Sc,, Late Senior Scholar and 1851 Exhibition Scholar, New Zealand University; Research Fellow, The Owens College, Manchester. New York: Longmans, Green & Co., 1902. 543 p. $1.50.

Space limitations restrict us to a mere indication of some salient features of this live and interesting work. Of these the most striking and significant is, properly, the point of view disclosed by the title. Successful pursuit of the later developments of physical and general chemistry demands a knowledge of higher mathematics, and our author's aim is to furnish what he has "found the regular text-books" fail to furnish, a "short road to this knowledge." For chemical and physical investigation, "higher mathematics is the art of reasoning about the numerical relations between natural phenomena." Every physical law is assumed to be representable in the form of a mathematical equation. Such briefly, is the author's faith, which colors the treatment thruout, and it would be obviously unfair to judge the work by the modern standards of precision and rigor.

Part I., called elementary and occupying the first 270 pages, presents in order chapters on the differential calculus, analytical geometry, functions with singular properties, the integral calculus, infinite series and their uses. In all cases essential notions are ingeniously, and often initially, explained in terms of physical and chemical ideas. For example, the smybol $\frac{dy}{dx}$ is introduced as suitable for representing "the rate of formation of hydrogen chloride" during a sufficiently small time interval. Trilinear co-ordinates find significance in the "graphic representation of the composition of certain ternary alloys," and in kindred connections. The point where the "steam, ice, and hoarfrost lines" concur exemplifies the concept of the triple point. And so on.

In Part II., described as "advanced," one finds a short chapter on hyperbolic functions, a compendious chapter of 74 pages showing "how to solve differential equations," and a brief treatment of "Fourier's Theorem."

Part III., covering the last 130 pages, explains "how to solve numerical equations," presents the essentials of "determinants," discusses in a most interesting fashion the doctrine of "probability and the theory of errors," and closes with valuable collections of working formulæ and reference tables.

Even if we can hardly allow that Dr. Mellor has succeeded in his attempt to find a short path, it must be said that his methods are pertinent, and the chemical or physical student who seeks a working knowledge of mathematics will not find a more helpful book or series of books covering the same subject matter.

C. J. Keyser

Columbia University

Primer of right and wrong: for young people in schools and families—By J. N. Larned. Boston: Houghton, Mifflin & Co., 1902. 167 p. $1.00.

This little book has a practical aim: to tell what right and wrong conduct means in such a way that one must see the former to be the only natural and reasonable thing. The right is that sort of quality which we find in a right line—the straightforward, direct way of getting to the point in view. The wrong is the crooked, more difficult way, the way we should not naturally take to accomplish our end, even as a crooked line is not the natural way of getting from one point to another. As a right line is the same in either direction, so, too, right conduct would be the same between man and man. Here is seen the naturalness and simplicity of the golden rule. As a body naturally moves in a straight line, so we have a natural tendency to do right. In this fashion the particular virtues are treated one by one: integrity, honesty, reciprocity (fairness), benevolence, citizenship, gentlemanliness, etc., *i. e.*, to have integrity is to be an integral whole, one consistent character, as Nature meant us to be; honesty is directness, straightforwardness in word and speech. Anec-

dotes of great men and excerpts from literature are found at the ends of chapters: *i. e.*, Franklin's rules of conduct, Marcus Aurelius, Faraday, Socrates. Nor does the author content himself with generalities: betting, gambling, and even hunting are denounced, and we are reminded that political parties are never ends, but only means. The psychological analysis of gambling is certainly clever. On the whole, as a practical appeal, the book is most successful, and should be of great use to the educator.

W. H. SHELDON

COLUMBIA UNIVERSITY

Elements of Physics—By Fernando Sanford, Professor in Leland Stanford Junior University. New York: Henry Holt & Co., xxxi + 426 p. $1.20.

Professor Sanford's work belongs to the type of text-book in which the class room and laboratory work are intended to be so combined that the one will depend upon and explain the other. The directions, however, which are given in the text for the laboratory work are very brief, and all details connected with the presentation of the laboratory experiments are left to be worked out by the teacher, so that, as the author remarks in the preface, the book "has been prepared especially for the teacher who has had an adequate training in the physical laboratory, and is not likely to succeed with any other teacher."

The most noticeable departure from other elementary text-books of this type is to be found in the arrangement of the subject matter. The subject of mechanics, for example, is developed from the principle of virtual displacements, rather than from the idea of the resolution of forces; energy relations are thus developed first, and the subject of the resolution of forces left to the last of the chapter. In the treatment of the next subject, "The properties of bodies," the properties of gases are first studied, and the kinetic theory of gases is developed here, instead of in connection with the subject of heat, as is usually done. The phenomena of heat are discussed under the following headings: Mechanical theory of heat; Effects of heat, including change of state, and the subjects of critical temperatures and pressures; Distribution of heat; and towards

the last of the chapter the subjects of thermometry and calorimetry. The order is seen to be almost the inverse of the usual one, but is well adapted to bring out the fundamental ideas in the modern theory of heat. The next subjects presented, Wave motion and Sound, Magnetism, and Static electricity, are treated in much the usual way. The subject of current electricity is introduced by a brief discussion of the theory of ions, and of the "solution pressure" theory of the galvanic cell, after which the effects of the current are treated, and at the last of the chapter is a brief presentation of the subject of electrical radiation. The last section of the book is devoted to the subject of Light radiation; the subject is developed from considerations of the changes in the wave front, rather than by the use of the fiction of rectilinear propagation. This method of presentation enables a more thorough treatment of the subject of interference to be given than is usual in an elementary work.

The book, on the whole, seems to be a very excellent elementary presentation of the more modern physical theories, but is hardly adapted to a class of beginners, unless under the direction of a teacher who is able to supplement the work by many questions and problems of a quantitative nature, so as to give precision and definiteness to the vague ideas the beginner is likely to obtain from such a treatment of the subject.

F. L. Tufts

Columbia University

By an unexcusable blunder foreign matter was introduced, in the office of publication, into the article by Professor Hibben of Princeton University, on *The relation of philosophy to graduate studies,* which appeared in the Review for March, in a manner that has largely destroyed the value of Professor Hibben's important paper. The foreign matter begins on the fifth line of the second paragraph of page 268 and extends to the last paragraph on page 271. An apology is due not only to Professor Hibben, but to the readers of the Educational Review for this blunder.

EDUCATIONAL REVIEW

MAY, 1903

I

THE TIME LIMIT OF SECONDARY EDUCATION

The twelfth annual meeting of the Harvard Teachers' Association was held at Harvard University on Saturday, March 7, 1903. The papers and discussions were upon the topics "The Time limit of secondary education" and "Expenditures for education."

It has been felt for a number of years that the course which leads to the learned professions by way of our best schools and colleges is a longer one than is desirable, and various suggestions have been made as to how it may be shortened. No institution corresponding to the American college is found outside of English-speaking countries. By continually raising its standard, the American college has shifted its place in our system of education and changed its character considerably in the last half century. The academy and especially the public high school are now doing a large part of the work done by the colleges fifty years ago, and they are doing it in many respects better. The colleges continue what may properly be called high-school or secondary training during the first two years of the course and during the last two attempt university work. The question may fairly be raised whether the strong high schools of our cities better not add the first two years of college work, and let the last two years be incorporated in the graduate school of the universities. In this way the college would be eliminated as an institution which comes between the high school and the university, and the high school could fit directly for the university and the

professional schools, as is the case now in all countries of Continental Europe.

There are certain advantages in such a readjustment of higher education which may be pointed out. In the first place, students would be kept two years longer under the parental roof and therefore protected longer against the temptations of college life, which are often exaggerated, but which are nevertheless very real. For a limited number of boys and girls it is better that they should be educated after the present high-school period away from home, but for the majority it would probably be better if home influences should be continued for two years more. In the second place, it would bring college training nearer to the homes of the people. Many pupils could get the benefit of at least two years of higher education in the high school of their own city who have not the means to go elsewhere to attend a college. It would, therefore, make education more democratic. Thirdly, it would be far more economical. Omitting exceptional cases, the average minimum cost at New England colleges, including all expenses, is probably not less than six hundred dollars per year. If a boy or girl could do the first two years of college work in the high school at his own home he could do so at a cost, including board, clothing, and other necessary expenses, of not exceeding two hundred and fifty dollars, saving in this way three hundred and fifty dollars a year. In many cases the saving of this amount the first two years would enable a poor boy or girl to go two years more to a university. In any event, the saving is of consequence. In a city like my own, from which there are about forty boys and girls at present attending the Freshman and Sophomore classes of colleges, there would be a total annual saving of about fourteen thousand dollars to the parents of these students if they could do their first two years in the high school. To this it may fairly be objected that no community would at present tax itself for this increase in high-school expenditures. To this objection, it may be replied that the parents themselves could afford to pay all the extra expense and still save money. In the second place, it may be replied that it is likely

that rich men and women would in the future endow high schools as they now endow colleges, if such a step as this were taken. Indeed, gifts to public education have been made more frequently than is generally realized. The gift of a fine manual-training high school with its equipment to the city of Cambridge, that of a fine school building to the city of Fall River, and of another high-school building to the city of New Haven by wealthy private citizens are well-known examples. In other parts of the country similar gifts have been made. Instead of giving schoolhouses, which cities ought to be required to build, such gifts will probably, in the future, take the form of endowments, the income from which will defray part of the current expenses of the school.

This is obviously a step which cannot be taken suddenly or in the immediate future, but that there will be a quite radical re-organization of higher education in the next twenty-five years, there can be little doubt. The organization of higher education in this country is far more chaotic than the organization of elementary and high-school education, and our educational system is in some respects weakest near the top.

It may be objected also that the college spirit and the social life of the college can never be transferred to the high schools and that the loss of this is too great a sacrifice to make. To this it may be replied that the social life of the college could be transferred to a very large extent to the universities, as it is largely a question of dormitories. Columbia had no social life until recently, because it had no dormitory system which brought the students closely together. The social life of the college ought never to be transferred to the high schools. We have too much imitation of the college, especially in its less fortunate features, in our high schools already.

What would be the effect on the colleges? In the first place, as stated, it would eliminate the college as an institution that would come between the strong high schools and the university. In the second place, the stronger colleges could be converted into universities doing superior work in a few related lines. The notion that it is not possible to have

a university unless you teach all the arts and sciences is historically a false one. John Henry Newman did a great deal to make this false conception of the university popular. Clark University of Worcester has shown what can be accomplished with a small endowment, by specializing in a few related lines. In the third place, the college would remain as an institution of the same grade as the strong city high schools. We need more colleges rather than fewer. We need more small colleges, so well endowed, however, that they can command the highest grade of talent for their teaching force. Small colleges in the past have often been weak, not because they were small, but because they were too poor to command a high grade of talent in their teaching force. No one would, of course, advocate the conferring of the bachelor degree or any other degree by high schools, and this power ought to be taken away from the reconstructed college.

The conferring of degrees should be limited to the university. With this change the degree of Bachelor of Arts would probably count for less than it has counted in the past. It would be either abolished, as it has been in Germany, or conferred by the universities, as a sort of entrance degree to the graduates of the higher schools, as is done in France. Its effect on the university would be that such shortening of the course below the university would make it possible for our universities to develop. It would enable the universities to use for the university work the funds now used to defray the expenses of the undergraduate department. It would release professors in the university from the drudgery of undergraduate work which now absorbs so much of their time and strength, and would enable them to devote themselves to research work in the university. Its effect on the higher technical schools would be an altogether desirable one. The higher technical schools of this country are on a college basis; in Europe they are on a university basis. It takes at least from two to three years more of preparation to enter such an institution as the great Polytechnic school at Charlottenburg, Prussia, than to enter the best technical schools in this country. It will never

be possible to require graduation from college as a condition of admission to our technical schools, nor will it be practicable to require students to attend some college for two years before they will be admitted to a technical school. By adding two years more to the high-school course, the best high schools of the country will be able to give students such a fit for technical training that our best technical schools can be put on the university basis and do the grade of work that is now done in the best technical schools abroad. It is extremely doubtful whether this can be brought about in any other way.

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II

THE TIME LIMIT OF SECONDARY EDUCATION

I start with this proposition:

1. There is at present no general agreement as to the exact meaning of the expression secondary education, and consequently there is at present no sharp distinction between elementary teaching and secondary teaching, or between the elementary school and the secondary school.

2. In order to define exactly the time limit of secondary education, one must determine the point at which it begins, the period thru which it extends, and the point at which it ends. Any two of these being determined, the third will be at once evident. At present there is no agreement regarding any one of the three.

3. The subject "Time limit of secondary education" cannot profitably be discussed as a thing by itself, but must be studied with reference to the school career which precedes it and the college career which may follow it.

4. Assuming for the moment that the grammar schools may be described by the term "elementary" and the high schools by the term "secondary," the course of study in the former schools should be generally completed one year earlier, and in very many cases two years earlier than at present.

5. There are grave objections to transferring the two upper grades of the grammar school to the high school. There are also grave objections to adding on one or two years of college work in the existing high-school course.

6. The attempt to teach certain studies formerly comprised in the high-school course (of which Latin, French, algebra, may be taken as examples) involves the necessity of a larger number of teachers in the upper grammar grades than at

present employed, and these teachers must be of superior scholarship.

7. The majority of the pupils in elementary schools never enter the secondary schools. The elementary schools should be administered with supreme regard to this majority. The majority of students in secondary schools never enter college. The secondary schools should be administered with supreme regard to the majority.

8. The time limits of secondary education for those students who are to enter college are largely determined by the demands of the higher institutions. At present those demands are in some cases unreasonable and excessive.

Let us take up the first one, which suggests that there is no general agreement as to the exact meaning of this expression, "secondary education," and consequently that at present there is no sharp distinction between elementary teaching and secondary teaching or between the elementary school and the secondary school. Perhaps in commenting upon that proposition, to guard against any misunderstanding, I may wisely avail myself of a sentence for which I am indebted to one of my advisers. He says, "I regard the distinction between elementary and secondary instruction to be a difference in the administration of the pupil's educational opportunity, that is, in the studies and government, in the method of teaching; and of course this difference is developed gradually in any good scheme of instruction." The gentleman who wrote that sentence evidently had this thought in mind; it is impossible to draw a line and say, "On this side of the line you have elementary teaching and nothing else; on that side of the line you have secondary teaching and nothing else." If I understand him aright, his belief is that the elementary teaching gradually shades off into the secondary, and finally, secondary teaching becomes the exclusive teaching to be found in the institution.

But to come back to my main suggestion under this topic, that there is no agreement in regard to the meaning which we are to attach to the term "secondary education." Those of you who have chanced to read President Hadley's very

enjoyable article in the *School review* for December will remember that where he refers to the words and phrases employed in educational discussion, he makes the remark, "One such term whose use has greatly puzzled me is 'secondary education.'" If the President of Yale University does not hesitate to assert in print that he is puzzled as to the meaning of the term "secondary education," we may well admit that indeterminateness does still attach to it.

When one is troubled in regard to the meaning to be attached to a given expression, or when one wishes to know how generally it has come into the life of the people, he naturally resorts to the dictionary makers, and I have turned to four of the leading lexicons now in current use. In the first instance I found no reference whatever to secondary education. In the next one, I found a statement in regard to it, which did not seem to me highly illuminating. It was the only thing to be found in this large lexicon. It defined secondary education as "education of secondary rank." To such additional or fresh knowledge as that conveys to you, I bid you hearty welcome. The third does not help one a great deal, and yet it is the authority that would probably be regarded as the leading authority among our present sources. Speaking of secondary education this great work says, "It is that received in grammar and high schools, or in academies." I was not greatly helped in my perplexity by that statement. But finally I came to one which is just a little nearer to the fact. This last authority says under this general caption of secondary education, "Pertaining to the grades of instruction imparted between the elementary or primary grades and the college or university curriculums, as, for instance, secondary-school or secondary education." If I may amend that by saying, "Pertaining to the grades of instruction that ought to be offered between the elementary grades and the college or university curriculums," I think we may acept the amended expression as a fair statement of what we are to understand by the term "secondary education."

The existing confusion will be indicated more clearly if I make use of some concrete illustrations. Certainly in times

past such a subject as arithmetic in its entirety has been regarded as an elementary subject. We may balance against that algebra, which, even in its elements, has been regarded as a secondary subject. The whole of United States history, as determined by our past practice, has been regarded as an elementary subject. Whatever has been done in the study or teaching of ancient history has been regarded as a secondary subject. As determined by our ordinary practice, the whole of English grammar, including the most technical aspects of that subject, has been regarded as an elementary school subject, while the merest ABC of any other tongue, Latin or French, has been regarded as a subject fit exclusively for the secondary school. Those concrete illustrations, I think, indicate what seems to me the dire confusion which exists in our educational practice and educational discussion.

And so we are face to face with this question: What constitutes the exact difference between elementary and secondary studies? Into that matter I have not attempted to go except in a very slight and incidental way, because it is a bit apart from the main issue of the morning; and yet I think I may render a slight service if I call attention to an article which appeared in the Forty-eighth Annual Report of the Board of Education. It is a report upon the high schools of the State, prepared by Mr. George H. Martin, at that time an agent of the board, of whom I may safely say, "he touches nothing that he does not adorn." I found myself re-reading that report, which I had not seen for some years, with great pleasure, and I think that all of us, whether working in elementary or secondary schools, can read Mr. Martin's report once more to our great advantage. I suggest it at this time because it contains one of the best discussions known to me in print regarding elementary and secondary teaching, elementary and secondary schools.

I venture to suggest, also, a discussion of the same subject which appears in the Forty-second Annual Report of the Secretary, written by the late Mr. Dickinson. You will find in that volume two sections, the first of the sections being headed "Elementary course of studies," the second, "Sci-

entific course of studies." If you read those two sections you will find that Mr. Dickinson uses the term "scientific" not in the ordinary acceptation of the term, not as we use it in ordinary popular speech, but in accordance with a special purpose of his own, which becomes quite evident from the context. After discussing elementary teaching, Mr. Dickinson writes this sentence, which seems to me very true and well worthy of our attention. He says: "For want of such teaching" (that is, elementary teaching) "we do not have much purely scientific teaching in this country." I must beg to remind you once more that he is using the term "scientific," when he is speaking of scientific teaching, in rather a peculiar sense, which he himself has explained. Mr. Martin somewhere remarks: "There is not much scientific study in the schools, nor can there be while there is no orderly elementary study from which the scientific may proceed." President Eliot is reported as saying that instruction has been given in recent years in Harvard University which should have been given, because of its elementary character, in the grammar school. Because it has not been given in the lower-grade schools it is found necessary to give it here.

I dismiss this first proposition, then, upon which, perhaps, I have commented at too great length, with the following brief citation from Mr. Martin's report, to which I have referred. I think it serves to show us rather clearly what the cause of the present confusion is. Mr. Martin says:

"The high school has grown out of the old academy and the more ancient grammar school. It was only annexed to the lower school. It has never been brought into an organic union with them. Nominally it is a school for secondary instruction. Actually it furnishes a mixture, in many cases a muddle, of primary and secondary instruction. The simplest facts and the broadest generalizations are learned together, with no conception of their relations to each other nor of the different processes by which the knowledge is acquired. Classifications are learned before the things classified. At a time when the reflective powers chiefly should be engaged,

the students are just put to using their senses. This is true in every department—mathematics, natural science, history, and language.

"The true remedy, in my judgment, lies in regarding the schools as one, not several. The work of the higher grades is to teach scientific knowledge." The work of the lower grades is to teach the facts upon which that scientific knowledge is based. A course of study recognizing these principles would carry thru the lower grades, primary and grammar, the elementary study of form, of natural objects, of natural phenomena, of language, of history, of politics, along with the elements of numbers and geography, which we now have. It would leave for the high school the scientific parts of arithmetic, geography, and languages to be studied with the other sciences.

"This would give to the children the proper work of children. Those of fourteen would not be trying to do the work of those of eighteen, nor those of fifteen be affronted by being required to do the work of those of eight. If such a course were pursued, the minority who must leave school before the higher grades are reached would go out with better-trained minds. The earlier developed powers would have had proper nutriment and exercise, and the later developed would not have been prematurely taxed."

Passing now to the second proposition, that one must determine at least two of these three points—where secondary education begins, the period which it is to cover, and the point at which it ends—before the matter can be settled: I renew my suggestion that at present there is no agreement in regard to any one of the three.

Before venturing to use some very simple statistics gathered some time since—with no reference to this meeting—I wish to admit the great hazard that attaches to the employment of statistics. One has much sympathy with the speaker who classified false statements as lies, —— lies, and statistics. That was his order of arrangement. I have come to see—doubtless, you all have come to see—that anybody who wants to prove a case can prove it with great success if you

allow him to gather his own statistics. But the figures which I propose to use are simple in character, and not having gathered them for the purpose of proving anything in particular, I use them with confidence, and I hope I shall carry you with me in your thinking as to their significance.

Before citing these figures I wish to comment upon the misleading results which often ensue if we reply at all upon average statements, statements of average age, average attendance, or what not. To illustrate to what lengths we may go: If I were writing a report on a system of schools containing two—not a very large system—the average attendance upon one being sixty-five, and the average attendance upon the other five, I could truthfully say in my report, "Number of schools in this town, two; average attendance upon the schools of this town, thirty-five;" and yet hidden behind that statement are two great evils, one school unduly large and another school unduly small. So when I use these figures, instead of giving anything that relates to the average age of the classes, I want to point out the facts in another way, a fairer way, it seems to me, and a way which seems to me very significant in regard to existing conditions.

The facts I am about to use relate to five different years and to three different municipalities. It is quite as well that no mention of the municipalities be made.

In every instance I have considered all the pupils who were prepared for the high school in a given year, noted down their ages in years and months up to the 1st of September, and I give you these results.

In the year 1896 I happened to know of 163 pupils who were ready to enter the high school in a given place. Sixty per cent. of them were over fifteen years of age, twenty-three per cent. were over sixteen. Now we need to get the full force of this statement. This sixty per cent. had completed fifteen years of their lives; they were in their sixteenth year.

The twenty-three per cent. had completed sixteen years: they were in their seventeenth year. That is, one pupil in four, practically, at the beginning of his secondary-school course was in his seventeenth year.

Take the next case: Two hundred and seventy-seven pupils, sixty-three per cent. over fifteen years of age, thirty per cent. over sixteen years of age.

Another case: Two hundred and sixty-three pupils, sixty-four per cent. over fifteen years of age, thirty-one per cent. over sixteen years of age.

In the next case 205 pupils, eighty-three per cent. over fifteen years of age, fifty-six per cent. over sixteen years of age. And there I stop for a moment to comment. That is the most startling illustration which I use. It relates to a body of elementary schools whose program has not been "enriched" beyond the incorporation of English history. I think it important to bring out the fact that the late age at which pupils complete the elementary course is not solely determined by the enrichment or non-enrichment of that lower course. It is determined by other considerations. This most startling illustration which I happen to have at hand, where eighty-three per cent. were past fifteen years of age and fifty-six per cent. were past sixteen years, relates to a system of elementary schools where English history was the only study that had been carried down from the high school.

Last case: One hundred and eighty-three pupils, fifty-five per cent. past fifteen years, twenty-three per cent. past sixteen years.

I cannot escape the conclusion that such facts as these practically amount to a demonstration of the suggestion already made, that in very many cases pupils are completing the grammar-school course two years later than should be the case. If such is the fact, it follows that the elementary-school course must be completed earlier by one or two years before it will be possible to establish satisfactory time limits for secondary education.

The evils incident to present conditions are manifest. Very many pupils are kept out of the high school by the late age at which they complete the grammar course. I would like to point out that this delay comes in a great many instances between grades one and six. The upper grammar grades are by no means solely responsible for it, but you will

find the delay beginning and perhaps completed in grades one to six. We spend considerable time discussing whether an elementary course should be eight or nine or seven years. Far more important than that is the flexibility, the good sense, or lack of good sense with which the system is administered. A less important question is the precise number of years it shall cover, altho one may admit that there is a choice in that particular.

If we ask—this is slightly in the nature of an aside, and yet I think it is a bit interesting—if we ask why pupils are so late in completing the elementary course, the following explanations, among others, may be hazarded.

First, the interruptions which come into the life of many pupils thru long illnesses or thru other causes which I need not take time to mention.

Second, the fact that there are sundry pupils who are not bookish, to whom books never have appealed, perhaps never will appeal. The schools do not take hold upon them.

Third (and here we come to a matter which is very much more under our control) the school lacks effectiveness in so many instances. To use the language of the street, the school does not "get there." It exercises upon the pupil in its care no very high degree of compelling power. Of course those of us who are in the midst of the fray know that the explanations are various. Sometimes it is because so many pupils are assigned to a teacher. Sometimes it is because the teacher has not the compelling power in him. It does not make much difference whether he has forty pupils or twenty.

Further, we have been troubled by a vicious notion as to class thoroness. Having been in my earlier years a great sinner in that direction, I think I may properly say this. We hesitate to carry along our pupils until we have brought the class as a class to a certain standard of excellence, of proficiency or thoroness. That we have done with the most praiseworthy of motives, but, as I think, with a lamentable lack of good sense.

Further, the elementary school is overweighted, not so

much, I think, in regard to the number of subjects as to the treatment which we have insisted on affording them. If we will take the various subjects to be found in the lower schools and content ourselves with elementary teaching, then I think the evils will disappear. The case already cited in which eighty-three per cent. were over fifteen years of age, is chiefly to be explained in that way. The curriculum consists of little more than the ordinary English branches, but these ordinary branches—geography, history, etc.—have been put practically on the secondary basis. The teachers, however skillful, find they cannot do in the course of a single year the work that is laid on the different grades, and so pupils are held back, held back, held back. So I suggest that the curriculum is sometimes overweighted, not because of the number of subjects, but because of the mistaken treatment we try to give them.

Finally—and here is a very real incumbrance, perhaps in large measure unescapable in the public school—the presence of a considerably large number of pupils whom we call dull. They are slow, and, very much as the speed of a fleet at sea is determined by the speed of the slowest vessel, so I suppose, in spite of all our efforts to the contrary, the rate of progress in the public-school class will be determined in some measure by the presence of those pupils whom we speak of as slow and dull.

The third proposition will require but a word of comment. It is to the effect that the time limit of secondary education cannot profitably be discussed as a thing by itself. To use Mr. Soldan's expression, we must have in mind "the totality of education," when we talk about the time limits of secondary education. As I put it myself, we must have regard to the years that have preceded the secondary-school years, and the subsequent years that may follow in college.

Personally I never come across a body of pupils fifteen and sixteen years of age in the elementary school, however good, without regretting their presence there. I am impressed with the feeling that the elementary school takes its character from the fact that the great majority of pupils attendant upon it

are children. It is a school for children, not a school for youth; and, as it seems to me, after children have ceased to be children and have become youth, they ought to be in the atmosphere which prevails in the secondary schools, where the standards of control, where the motives to which we appeal, where the whole life of the institution differs somewhat in character. It is for that reason I always regret to see these overaged boys and girls, limited tho their attainments be, in the elementary school. And so I regret to see in the high school young people who are practically young men and young women. For similar reasons I think their place is in the college, and, perhaps, I shall find no better place to say than the present that it seems to me one of the strong reasons for regretting the advanced age of students in college is the fact that they are still in a state of dependence, they are under tutelage where, as it seems to me, they never can get that form of education which is to be had only in the midst of the struggles of the world, facing the responsibilities one has to face, fighting the battles one has to fight when his time of tutelage is ended and he is compelled to "buck the line" himself.

The fourth proposition, that the course of study in the elementary school should be completed one year or two years earlier I think is sufficiently explained by what I have already attempted to say.

The fifth, that there are grave objections to transferring the two upper grades of the grammar school to the high school, will call for only a word. In the first place, there is the lack of accommodations in the high-school buildings. There is, next, the great increase in the expense involved. But more vital than either, to my mind, is this objection: Junior classes in the high school are ordinarily taught by women. Now I must stop for a minute and make a careful explanation, lest it be supposed that I have any objection whatever to the presence of women in the schoolroom as teachers. It happens, has happened for many years, that many of the ablest associates I have ever had in school work have been women. I have had occasion to say more than

once that the best master in the system of schools with which I am connected is a woman. That has been the literal truth. But I think any fair-minded person must lament the great disparity between the numbers of the sexes. Our American schools all thru would be stronger if we had a much larger number of competent men engaged in the service. I think it is desirable that all pupils should be for a time under the instruction of strong, competent masters. At present and for a long time to come I suppose they are likely to be found in the upper grades of grammar schools. Mr. Martin has a word of comment upon that, which brings out the idea which I wish to emphasize. Speaking of high schools, he says:

"The first-year class is often given to the teacher who has the least experience, usually a young woman, often with little capacity for teaching or governing. This class has just come from the grammar school, from a teacher of experience, a man who has stimulated them to work by the vigor of his own thinking. In reaching the high school they lose this stimulus just as they need it most, on entering upon new lines of work. In consequence they become indifferent, sluggish. They dawdle and lounge and play. This is especially true of the boys. I have found the most striking contrast between the highest classes of the grammar school and the lowest classes of the high school in the same town. In one I have found life, activity, thoughtful interest and attention; in the other dullness and disorder." Then I remember Mr. Martin goes on to emphasize as a most desirable practice that the head master shall, if possible, come into active connection with the entering class of the school, giving instruction, if possible, to some portions of it.

If there were time, I should be glad to comment on the wreckage which every experienced teacher knows is incident to the work of the first year in the high school—the number of pupils who, coming out from the rather minute and careful and daily supervision of some one person in the grammar schools, enter into the high school with its larger measure of freedom, and there go to ruin, wreck. The same thing happens to many Freshmen in college. They come up from

the secondary school where they have been working for a distinct objective, where they have been in the hands of a trainer who attended directly to matters of diet and exercise, and when they have passed the entrance examination and find themselves in the freedom of the college, where perhaps the labor of half or three-quarters of an hour a day keeps them floating along in the current for a time—many perish in the midst of rich opportunities.

Some of us heard President Hadley say that he didn't know anybody who could carry on the affairs of a college if Freshmen came to it a year younger than they now do. It seems to me the fundamental trouble is not there.

In many instances the high school needs to revise its arrangements for dealing with first-year pupils, and the college to pursue a like course with reference to its Freshmen. The transition from the elementary to the secondary school, the step from the secondary school to the college must always be critical points in the learner's career. I suggest that the higher institutions have a great responsibility in the matter to which they have not yet shown themselves equal.

The sixth proposition affirms that, if we are to offer in the lower schools instruction on subjects that have formerly been regarded as secondary subjects, two things are necessary: First, an increased number of teachers; second, teachers of superior scholarship. At heart the question is a financial question. I am inclined to think a school system would do well to exclude such subjects from the elementary schools unless they can be attacked very effectively, and unless the governing board practically says: "In order to undertake this work we must have additional teachers, we must have teachers of superior scholarship, and we will have them before we venture on this undertaking."

We come now to the seventh proposition, which emphasizes this thought, that the majority of pupils in the elementary schools never go to the high school so called, and, therefore, elementary schools should be administered always and everywhere with supreme regard to that majority. It seems to me that here is a real danger. Those pupils who are

going from the elementary school to the secondary school represent the influential portions of the community. I think we all know that. So far as the pupils of the secondary school are headed for the college, they represent in wealth, social standing, and intellectual caliber the influential portions of the community. I think the danger is real that elementary schools and secondary schools may be diverted from a wise, judicious course by this influence. Not that anybody intends consciously to exert an untoward influence, but the mere circumstances are such that it is well-nigh inevitable. I admit at once that if it can be shown (which I very much doubt), if it can be shown that precisely the same treatment should be extended to elementary-school pupils who are not going to the high school which should be given to pupils who are going there; if it can be shown (which I very much doubt) that precisely the same treatment in the secondary schools should be offered to students who are not going to college that we give to those who are, then of course this proposition loses all interest. If, on the other hand, we believe that there should be very marked distinctions in the treatment given these pupils, then the proposition still remains important, and we are bound to look out that the interests of the majority are supremely regarded.

My eighth proposition reads as follows: The time limits of secondary education for those students who are to enter college are largely determined by the demands of the higher institution. At present those demands are in some cases unreasonable and excessive.

Remembering where we are, and for the sake of simplicity and directness, I think I may as well say that, from all the evidence I can gather, Harvard College has been the chief offender in this respect. I want to offer to you the testimony of several head masters, as I quote from memory some things which I have heard them say from time to time.

Possibly I may preface that testimony with just a word to this effect: I heard a distinguished head master say on one occasion that he was entirely unwilling to give over

teaching, that he insisted on teaching a little every day, "because," he said, "if I don't, I should soon become a mere superintendent of schools," which remark I enjoyed as much as he did. There are a great number of things which a superintendent of schools cannot know. He cannot know the character of these college demands as the head master knows them. But the superintendent being at one degree removed, the personal element, perhaps, is just a little softened, and he may form quite as judicious an estimate of the severity of such demands as the head master does. So I am going to quote to you from memory the testimony of several individuals. But I must say another word before I do that.

These men stand at the head of the profession of secondary teaching. They are not the failures. They are not people whose success, whose efficiency is questioned by anybody. The schools which they administer are supposed to be the most effective institutions of their kind anywhere. Measured by the number of teachers, measured by the money which is spent upon them, they are the schools of first rank. As you listen to their testimony I should like to have you keep in mind this thought: if this is the opinion of leading head masters, if this is the state of things in the leading secondary schools of the land, than which there are no better, what shall we say of the less fortunate institutions, having a limited number of teachers, teachers of limited culture and limited experience, and behind which there stands a very limited amount of money? Now here is the testimony. The samples which I offer may be multiplied indefinitely. They may be summarized in the statement, that with each new definition of admission requirements the demand of the college has increased in severity. That is, as often as there has been a new statement of admission requirements for Harvard College, so often the demand has increased in severity.

Now in detail; and here I quote:

"It is extremely difficult for the average high-school boy to prepare for Harvard in four years without overwork at

some point in the course, usually in the third year, when the candidate is gettting ready for his preliminaries."

From another head master: "The sum total of the requirements is too great for the *average* pupil in the *best* high schools, or the *best* pupil in the *average* high school, to master in four years."

From another: "All the schoolmasters whom I have heard express themselves think that Harvard College increased the requirements for admission about three years ago not less than one-third in Latin, Greek, French, German, and, perhaps, history. Not only is there no margin for pupils to pursue any favorite study beyond the average, but it is nearly impossible to fit boys well for Harvard by using all the time."

From another: "Present Harvard examinations are unreasonably difficult. The examinations were hard enough before the introduction of the new system, and should be restored to their former degree of difficulty."

Another: "The aggregate requirement is much too large to make the secondary schools in the highest sense educational. The constant tendency is for them to degenerate into cram-shops, whose success is measured wholly by examinations."

I have felt myself warranted in going into this phase of the matter, because not only is the intensity of the work of the secondary school determined by the demands of the college, but the length of time required is in a large measure so determined, because I have formed the impression that the mere quantitative aspects of the work demanded by the college have become fairly overwhelming.

Finally, by way of conclusion, I venture to say that I suppose it is necessary at times for us schoolmasters to discuss topics of this character. I never enter into these discussions myself without just a little apprehension that they may shut our eyes to far more important aspects of our business. If we can discuss these things without forgetting the great matters, well and good, but at least there seems to me that danger.

What are the great matters? They seem to me such as these. The other day at lunch in casual conversation with a business man he went back to his experience as a high-school boy in a little town in Maine. He said there had not been a boy from that high school who went to college since anybody could remember. Then he told me of the coming into the town as high-school teacher of a man whom we both knew very well, and he said that man had not been in the high school a great while before he began to impress the boys with the notion that they could do better for themselves than merely to complete that high-school course of study, to show them that they were not utilizing the opportunities that lay before them. Pretty soon he began to impress the community with the same idea, and it was not long before he sent a boy to college, and then another and another, and from that day to this there has not been a time when that little high school in Maine has not been represented by more than one student in some American college. That schoolmaster, I venture to think, was doing a great thing in that community. If he had spent his entire time and energy, if he had allowed his attention to be entirely absorbed in such things as time limits of secondary education, and not in doing for that community what he did, I think he would have lost his opportunity.

Take another illustration. Many of you must remember that fellow of Balliol College who died early in life leaving behind him a wonderful career. You remember that his sorrowing associates erected upon the walls of the chapel a tablet in his memory. I quote it to you as my last word, the best thing I can say as indicating the great things about which we all need to be concerned as we carry on our school work.

"He loved great things and thought little of himself; desiring neither fame nor influence, he won the love of men, and was a power in their lives; seeking no disciples, he taught many to know the greatness of the world and of man's mind."

George I. Aldrich

Superintendent of Schools,
Brookline, Mass.

III

A SIX-YEAR HIGH-SCHOOL PROGRAM

Toward the end of his discourse Mr. Aldrich pointed out the difficulty which the secondary schools find in meeting, in four years, the present college admission requirements, particularly the Harvard College admission requirements. If that be the case, the time limit of secondary education seems a decidedly important question.

And because this question involves other considerations quite as important as the time required to prepare pupils for college, I wish to emphasize the importance of extending the time limit of secondary education.[1] With that in view I have placed before you a summary of the opinions of about two hundred school teachers and principals.

Before I come to that, however, I wish to say a few words concerning the difference between elementary and secondary education, which was also referred to by Mr. Aldrich. He spoke of the difficulty of defining these stages of education and of the fact that there is at present no agreement concerning the difference between them, and hence, naturally, no agreement concerning the time at which elementary education should cease and secondary education should begin. What I shall say applies especially to the existing condition of things; but incidentally, at least, I shall find it possible to refer to what I should like the conditions in secondary and elementary schools to be.

I think it goes almost without saying that we have assigned to the elementary school (the pre-high school, the pre-secondary school) this particular task: to put the child in command of the school arts, reading, writing, arithmetic; and, to give him also some of the beginnings of general culture. The emphasis in the elementary school is, of course, wisely placed

[1] See the tables given below, pages 458 and 460.

on the acquisition of the school arts. But we know that a vast deal of time has been wasted in too much emphasis on the school arts. In the elementary school of a generation ago it took a lot of useless arithmetical puzzles and technicalities; of meaningless parsing and paraphrasing; of spelling up and spelling down; of deadening re-reading of a single reader in each grade for several years; of useless geographical statistics; it took a lot of such time-consuming and profitless drill, in addition to what was essential, to fill up eight or nine years of school life, and to deaden hosts of children's interests in intellectual pursuits forever; but the time was so consumed, and the feat was accomplished.

We have learned that it is possible for a child to acquire the school arts in a much shorter time. Our experiments during the last two decades or so have taught us, I think, that, in general, about six years should be assigned to the elementary-school course, the time needed for the acquisition of the school arts, the tools by which culture is acquired. Further, that, during those same years the beginnings of general culture should have been undertaken; and that after six years the emphasis should be on the acquisition of general culture, while the emphasis on the school arts should be abated, until after the eighth year there is no emphasis on the school arts at all. Incidentally the school arts will be involved, of course, in further acquisition.

It seems to me, therefore, not difficult to point out the meaning we attach to "elementary education" and "secondary education," to-day. Elementary education means the acquisition of the school arts, together with some beginnings of general culture, during the first six years of the pupil's school career. Secondary education follows. It means that while the school arts shall not be neglected at first, the emphasis on them shall be gradually abated until they disappear, in two years, let us say; and that, thruout the remaining period of time while the pupil remains in school, the emphasis shall be on the acquisition of general culture.

Before passing on it is necessary to say a word about the meaning of general culture, because I have referred to it as

necessarily incorporated in the elementary-school course and as forming the chief purpose of the secondary-school course. I take it that the acquisiton of general culture means the acquisition of the power to appreciate and to deal intelligently with the resources and the problems of contemporary civilization. To that end the elementary school and the secondary school both work.

The following tables will serve to give somewhat further definiteness to the ideas which I have just been expressing. These tables were prepared by Mr. George D. Pettee, Principal of the University School, Cleveland. He was chairman of a committee to report on an extended high-school curriculum; and this committee made a report at the conference of collegiate and secondary instructors at Western Reserve University in Cleveland, on November 29, 1902. "The investigations of the committee," he says, "are condensed and exhibited in tabular form, as best expressing the professional judgment and the recommendations of nearly two hundred teachers, principals, and school superintendents, who have made detailed replies to the inquiries of the committee." This report, therefore, represents a contemporary tendency. I should add that Mr. Pettee states in a letter to me that no single individual and no single school would probably be content with this summary as a program of studies. That is not the intention. The intention is to represent the consensus of opinion so far as that consensus can be expressed in tabular form.

When we examine the tables, we observe that the ages indicated for secondary education are from twelve or thirteen up to seventeen or eighteen. That is, according to the opinion of these two hundred secondary-school teachers, principals, and superintendents, the time limit of secondary education is fixed at six years, and the ages of the pupils during that time are fixed at from twelve to eighteen years.

Now precisely this period from twelve to eighteen years of age is the period of secondary education as defined by many private schools and endowed schools. They recognized long ago that four years, on the

A SIX-YEAR HIGH-SCHOOL COURSE

	LOWER HIGH SCHOOL			UPPER HIGH SCHOOL		
AGES	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18
LANGUAGE The vehicle of thought and expression.	1. English Grammar. 2 2. French or German... 3 — Periods per week. 5	English Grammar 2 French or German..... 3 or French, German or Latin..... 5 — 5	16. Latin..... 5 or French, German, or Spanish... 5 — 5	Latin..... 5 or 18. Modern Language 5 — 5	Latin..... 5 or Modern Language... 5 — 5	Latin..... 5 or Modern Language.... 5 — 5
MATHEMATICS The processes of thought and expression.	3 Algebra..... 2 4. Geometry... 2 5. Arithmetic.. 1 — 5	Algebra..... 2 Geometry..... 2 Arithmetic.... 1 — 5	17. Arithmetic . 3 Geometry.. 2 — 5	Algebra..... 2 Demonstrative Geometry.... 3 — 5	Algebra..... 4 Mechanical and Geometric Drawing.... 1 — 5	19. Solid Geometry and Trigonometry..... 5 5
HISTORY The world: Its books, men, and institutions.	6. English Literature 2 7. History..... 2 8. Geography... 1 — 5	English Literature.. 2 History..... 2 Geography..... 1 — 5	English Literature... 2 History..... 2 Geography..... 1 — 5	English Literature.. 2 History..... 2 Civil Gov't.... 1 — 5	English Literature.. 2 History..... 2 Economics..... 1 — 5	English Literature... 2 History..... 2 Current Events.. 1 — 5
SCIENCE The world: Its form, substances, and uses.	9. Physiography 2 10. Clay and Wood... 2 11. Drawing..... 1 — 5	Geology..... 2 Wood and Wood-working. . 2 Drawing..... 1 — 5	Botany or Physiology... 2 Wood and Metal-working .... 2 Drawing..... 1 — 5	Zoölogy or Physiology.. 2 Wood and Metal-working..... 3 — 5	Chemistry or Forging and Machinery... 5	Physics..... 5 or Cosmography and applied Philosophy... 5
CULTURE Physical, rhetorical, musical, etc.	12. Phys. Culture..... 2 13. Voice Culture..... 1 14. Declamations and Essays 2 — 5 15. Instrumental music.	Ditto..... 5	Ditto..... 5	Ditto..... 2	Ditto..... 2	Ditto..... 2
Length of periods	30 min.	30 min.	40 min.	40 min.	50 min.	50 min.

NOTES.

No attempt is made in this report to give a prospectus adapted to a particular school, locality, or type of pupil. Radical changes within the several groups are wholly consistent with the proposed outline as a whole. Adaptations to the needs of girls' high schools may be made in several groups of studies. The condensation in the present primary and grammar grades is approved by many teachers who have considered the possibility and the need of this reduction. The various topics of arithmetic which relate to technical business transactions or which are best studied after the elements of algebra and geometry are mastered, should be postponed to the proper grades of the high-school course. The following notes aim to give brief interpretation to the outline schedule:

1. It is assumed that a twelve-year-old pupil has neglected the technical forms of English grammar, but has mastered a limited vocabulary of words in reading, writing, and spelling. His primary training should insure intelligent reading and an ability to write, in accurate English, simple stories or themes.

2. A fluency in simple conversation, reading and writing, and to be followed at about fourteen by a grammatical study of the modern language, or of Latin.

3. Such elementary processes in algebraic equations as simplify or replace arithmetric processes.

4. Concrete geometry, constructive and mensurational, with little attention to formal logic or demonstration. The essential computative and structural facts of geometry (plane and solid) may be covered.

5. Mental arithmetic and reviews.

6. A carefully selected course, adapted to the several grades, and involving the writing and personal correcting of frequent themes.

7. Digests of books, by topics and character analyses, should be made, and the six-year course should cover a wide range of reading. Classical students should not neglect the study of English and American history nor fail to know, at least in substantial outline, the beginnings of the history of the world, and the essential facts of mediæval and modern European history. Pupils not pursuing the study of Latin or Greek should in their own tongue make a critical study of Greek and Roman civilization.

8. Political, historical, and commercial geography, as a complementary study in the history course.

11. A course giving skill sufficient to illustrate the materials and processes used in the laboratory or at the bench.

12. Definite physical training supplementing the games, recess recreation, and athletic sports.

13. Singing and vocal calisthenics.

14. The refined forms of the art of expression. Practice in public speech and preparation of formal essays and debates.

15. If taught within the school program, it may properly displace some other form of manual training.

16. In this or in the preceding year should begin the regular college preparatory Latin. Students unlikely to enter college may profitably continue Latin thru a year's translation of simple Latin prose.

17. Largely commercial arithmetic, meeting the business needs of boys who leave school at this age.

18. A student entering college or technical school without Latin should have practically a mastery of one modern language and at least a limited familiarity with a second.

19. Candidates for classical courses in college will need to substitute a modern language for this higher mathematics.

In general, the course for the last two or three years will conform in some degree to the requirements of the college or technical school.

So long as Greek, or an equivalent language study, is required for admission to particular colleges, high schools and academies will probably sacrifice some part of the history or science groups, with so-called classical pupils.

THE SIX-YEAR HIGH-SCHOOL COURSE

AS A PART OF THE COMPLETE CURRICULUM AND WITH A TRIENNIUM AS THE UNIT OF DISTRIBUTION

EDUCATIONAL ORDERS	SCHOOLS	AGES	GRADES	CHARACTERISTICS
PRIMARY	LOWER (PRIMARY SCHOOL)	6 to 9	1 2 3	Reading, writing, spelling, arithmetic, drawing, music.
	UPPER (GRAMMAR SCHOOL)	9 to 12	4 5 6	The same, with language forms, geography, and elementary science. Object lessons, with familiar animals and plants, metals, coal, rain, snow, ice, brooks, etc. Making of collections.
SECONDARY	LOWER (HIGH SCHOOL OR ACADEMY)	12 to 15	7 8 9	General studies, aiming at the true appreciation of nature, men, and books. Major half of curriculum devoted to facts rather than to forms.
	UPPER (HIGH SCHOOL OR ACADEMY)	15 to 18	10 11 12	Similar studies, in more technical form. Processes more exhaustive. College preparatory courses.
UNIVERSITY (TERTIARY)	COLLEGE OR TECHNICAL SCHOOL	18 to 21		Greek begun only in college and forming the basis of the classical collegiate course. The college and technical courses largely free from professional studies.
	PROFESSIONAL OR GRADUATE SCHOOL	21 to 24		The age of admission, for average students, two years lower than at present.

The work of the home and of the kindergarten may be disregarded in determining the essentials of a school curriculum; likewise the advanced courses, at home and abroad, elected by specialists. No attempt at the solution of college problems is attempted. The schedule outline which may precede or follow the extended high-school course, is here furnished, to illustrate the significance of the three-year period.

basis of our contemporary elementary education, is too short a time to do the work that should be done in secondary education. Consequently for a long time they have given more than four years to secondary education. We are now pleading for an extension of the time of secondary education for the public-school pupil, too, so that he, as well as the private-school pupil, may profit by all the resources that the schools with good teaching and good equipment can offer him.

I do not intend to dwell on the details of the foregoing summary. My object is rather to call your attention to it as an expression of a contemporary tendency of teachers, principals, and superintendents. It shows a desire to secure, if possible, a six-year high-school program.

You will observe that the summary covers more than the work of an ordinary academic high school, or of an academy. It is, so far as the subject-matter of secondary education (enumeration of studies) is concerned, a good program; but you will probably notice, also, that, as a working program, it falls very far short of satisfying anybody, except in one or two particulars. But as I have already said, it is not intended to be a working program. It is a general scheme only.

The additional point I wish to make is this: not simply because the admission requirements of Harvard College make it difficult, if not impossible, to accomplish in four years the secondary education pupils ought to have before they go to college, not simply because Harvard College has been doing that, but because we have realized all along that the secondary education of boys and girls was deficient in quantity and quality,—because we have recognized that fact for a long time, and because the colleges are assisting to promote the spread of that recognition,—we are urging the extension of the secondary-school course downward.

Mr. Aldrich pointed out the difficulty of assimilating the two upper grades of the elementary school with the high school; and, further, that the chief difficulty in giving appropriate secondary instruction in the grammar schools was the want of teachers. I have always felt, however, that as soon

as teachers of the right sort, having the equipment which they ought to have, are demanded they will be supplied. I have felt always that if we have fixed our minds on an object which we regard as decidedly worth attaining, we shall find the means of attaining it. I therefore feel strongly that the first thing to do in order to promote this reform (for I regard it as such—the universal six-year secondary course),—the first thing what we need to do is to fix the six-year secondary school as a desirable conception in the minds of superintendents, principals, and teachers. Having done that, a demand for teachers who can meet the new requirements will be set up; and that demand will be met by the colleges.

Hence, I do not think that it is necessary, in order to have a six-year secondary program, to have the first two secondary grades in the high-school building. I see no reason why the necessary instruction could not be given in the several grammar schools, at least in some of them; and I see no reason why pupils could not be transferred to the buildings where that instruction is going on.

This is neither the place nor the time to discuss in detail another kind of education than that we are now considering. But I cannot refrain from alluding to at least one other kind of education which the secondary schools should supply, in part, and the grammar schools, in part. I refer to technical education—technical in the sense that it provides appropriate commercial and industrial instruction for those at the upper end of the grammar school who know they cannot go to school beyond the eighth grade, and at the upper end of the high school for those pupils who know they cannot go on to college. If our six-year secondary school is to accomplish its purposes for all, its privileges should be so administered that during the last two years of the grammar school (first two years of secondary instruction), those pupils who cannot go farther may secure various kinds of technical training; and, also, during the *last two* years of the secondary school, those pupils who cannot go to college may secure similar, but more advanced, technical training.

Let me put the thing in another way. It does not seem to

me desirable that all the pupils in the last two years of our grammar schools to-day should study foreign languages. Nor does it seem to me advisable that all of our pupils in the secondary schools should spend their time entirely on what are called the academic subjects. It seems to me desirable to provide for many of them appropriate vocational training. We might have two years of secondary academic training in some grammar schools, and two years of appropriate technical training in some others; and appropriate technical training at the upper end of all secondary or high schools.

There are always many objections to a change in contemporary practice, but I believe that no change is impracticable which is deemed advisable.

PAUL H. HANUS

HARVARD UNIVERSITY

IV

THE SECONDARY-SCHOOL COURSE

I have come to believe that the time is rapidly approaching when we should add one year, and better, two years, to the secondary-school course, at least in the well-equipped institutions of our larger municipalities. Some of the considerations which are influencing me I will state.

First, our very much congested curriculums call for it. For thirty or more years we have been driving one subject after another into them by a sort of calking process until every available crack has been filled; the old have been cut down too much, and now most of the studies are given less time than they require. We have in consequence a course too full for proper attention to be given to the studies which a high school should undertake.

Second, the increased demands upon those pupils who are to go to college, I need say little about. It is enough if I add my own experience. Three years ago we were accustomed to say to the pupil who came from the grammar school, "Four years is enough time to get into college if you are faithful and have fair ability." Now we say to him, "It is pretty sure to take you five years, but if you are able and a hard worker we may get thru in four."

Third, the increase of the material composing our text-books has added to the burden. Mr. Aldrich has hinted at this. Our text-book makers have seemed to feel it necessary not only to cover the outlines, but to fill in the details. As I observe my algebra classes struggling with the elaborations of factoring, and fractions, and simplification, and greatest common divisor which have crept into the text-books, I feel that I should myself almost be compelled to study algebra anew to be qualified to teach it.

Again, we are beginning to call no study unimportant, and to insist that every one should be given ample time to produce its legitimate disciplinary fruit, and so our curriculum bulges out the more.

And last is the demand for the insertion of higher and broader subjects into our courses. These are calling for pupils of maturer minds, those of eighteen, nineteen, or twenty years. The foregoing appear to me to be the more obvious reasons which are pressing us for an increase of time. I shall refer to others later on.

There have been three or four attempts at a solution of the difficulties. There is the attempt to crowd back some of the work into the grammar schools. Mr. Hanus has outlined for us this morning a plan by which this is attempted. It is a reform which I surely hope may succeed. But the various efforts which have been made hereabouts in this direction have not had a great measure of success. We have carried algebra and Latin and French down into the grammar school, and earnest and honest efforts with well-equipped teachers have been put forth, but so far as my observation goes, it has not made the work of the high school much less.

A second direction in which there has been a hope of alleviation, if not cure, has been that of improved methods of teaching and a better psychology. Any relief to come from this quarter would be an exceedingly slow and gradual one, and I have no expectation of great results.

Again, in Boston, as in many other places, we have approached the problem by what is practically an eliminating, an actual weeding-out, process. The introduction of a completely elective system has confined the pupil to somewhat narrower lines, but to more thorogoing work. But the possibilities in the entire list of studies in the course set before him a repast too large for him to digest in the time at his disposal, and the effect is to lead him to say that, if he is to have an opportunity to get at the good things which are possible for him he must remain longer in the school. Our attempt then to shorten becomes a reason for lengthening. Personally I am driven to conclusions which have in the main

been expressed by Superintendent Balliet. In view of the discussion of certain aspects of this question this winter, the introduction of it here is timely. Two or three considerations bearing upon it I will just suggest and leave it.

In the first place, to add a year or two to our courses would be simply following the line of high-school evolution. Practically, we have added a year to the work of the secondary school in the past forty years. Practically, also, we have added a year to the age of the high-school pupil at graduation.

Then, too, it has a bearing upon the question of the increased difficulty of earning a livelihood of which we hear much in these days. The high-school graduate does not now stand relatively to the rest of the community where he did in the sixties. He does not stand out so prominently. His struggle is greater; he is not so differentiated from the great body which the grammar school turns out. Should we not try to help him regain his standing by giving him a better equipment?

Further, we now turn away our boys and girls at the very most valuable period of their education, most valuable at least up to that age. A year then is worth any two preceding. As a rule they have come to a realizing sense of the importance of study and have just learned how to work. Certain branches can, too, be undertaken at that time with far greater profit. At eighteen a young man, in my judgment, is just ready to do good work in civics, and before that age is too immature to accomplish much in economics. History begins to open to him its real value, and he begins to attain that appreciation of literature we all wish for him. So that I am led to say, "Use all the means possible to hold the young men and women that they may be under the better and higher influences of the school." This may call for another and a superior grade of teacher, a change which surely will not harm our schools.

In taking this position I am far from any intention to antagonize the college. On the contrary, I urge most earnestly that the boy who is destined for the higher institution should go as now, for I believe it better that he come under the

influences of college life. I am thinking of, and pleading for, him who is debarred from these, but who might be induced to undertake further study if he could remain in school at home. In this matter I find myself inclined to dissent from the position of Mr. Balliet.

A most practical bearing of this question is upon the matter of preparation for the professional school. In it lies the solution of the difficulty so forcibly brought to our attention of late. We are clearly to have two classes of professional schools, which may be called, if you please, the Harvard type and the Yale type. At Cambridge every man must be a college graduate, and let not Harvard abate an iota of its demands. Let Yale continue to receive whom and when she will, but let those schools which follow the latter set a respectable standard of admission and call upon the secondary school to bring their pupils up to it. It would seem that, in general, one or two years should be called for beyond the present high-school product. I am pained, frequently, by having boys come to me when nearing the close of their high-school work and informing me that they are going to some law school or some medical school. To me they are clearly disqualified for such work, they are too young and immature and mentally undisciplined, and yet they are received by the professional school and somehow get on. It would seem that the standard of admission to that class of school should be lifted. If we are to take the opinions of college men which have this winter been so freely given forth, about two years on the top of the present secondary school would be required. I am as yet unable to believe that the college proper has anything to fear from carrying out my plan in the high school. In fact I must agree with one eminent college president of New England, who has said to me that he thought it would ultimately result in increased numbers in the college, because many men and women would be led along the path of higher education so far that they would get clearer views of the things beyond.

I shall be excused for bringing up again a point touched upon by Mr. Balliet. I refer to the relation of this matter

to such institutions as the Massachusetts Institute of Technology. It is really a phase of the professional-school question. The boy begins there his preparation for life occupation and at eighteen or nineteen years of age. We all understand and feel that he should have broader and deeper foundations built under him. It would seem that the Institute would welcome such a policy as I am advocating.

I want to speak, in closing, only of the relation to the average man of business. For the bulk of them, study ends when they leave school. A few go to college, but in the great majority of instances their professional study, so to call it, begins when they leave us, and all too frequently it is an experience whose tendency is neither broadening nor uplifting. I raise the question whether the secondary school has not a duty to perform for the community in striving to put forth a broader, maturer man, one better equipped for the higher phases of mercantile work. If there is one occupation, profession if you will, that needs just the training that two added years would give, it is just this. Shall we not confer a great boon on the community if we succeed in holding our pupils until we are able to give them those things that lift to a higher appreciation of the best of life, together with some grasp of the deeper questions of citizenship and economics, in order that they may more successfully compete in influence and power with the men and women from the higher schools? This may seem, to many, to be a dream, but it is a dream which will, I trust, have its gradual fulfillment in our larger municipalities, until the high school shall become in a certain real sense the college of the common people.

CHARLES J. LINCOLN

HEAD MASTER OF THE DORCHESTER HIGH SCHOOL,
BOSTON

V

THE IMPROVEMENT OF SECONDARY EDUCATION

Mr. Balliet's paper, of which I have just read the abstract (I could not get here early enough to hear it), proposes that America adopt the German system. The system he advocates is emphatically the German method; it has been since the beginning of the last century. We have had a different method. It is possible that America will come to the German method in process of time; but before we propose deliberately to adopt the German method, it seems to me we had better try to reform and improve our own.

Every man and woman in this room knows just where the improvements ought to be effected in the scheme of American elementary and secondary education. We are not in the slightest degree in doubt about the places where improvements ought to be made. To begin with, it is doubtful if there be any line of demarcation, any natural division between elementary and secondary education. For my own part, I find no line in human nature which divides elementary from secondary education. The distinction between childhood and adolescence seems to me vague. The process of education ought to be all one from beginning to end. It is a steady development and growth under conditions which gradually give greater and greater freedom, and develop more and more self-control.

What has caused the artificial divisions into periods which to-day are in common use? I suppose that the small primary school, which received the youngest children was held to be most conveniently placed when it was near the homes of the few little children that went to it. That was the condition of things in Boston when I was a boy. The little primary schools stood near the homes of the little children

that were expected to attend them. As the children grew up, it was supposed they could safely go, say, a quarter of a mile from home, or half a mile; so the segregations were larger, in a larger building called the grammar school, which had a program of its own. Then, when children got to be thirteen or fourteen years of age, it was supposed they could go from all over Boston to one much finer building, the high school. One high school was enough for the city; the children could come from all over the city to that single building. It was convenient to segregate in one building those few children who were to go to higher levels of education.

Such I believe to be the origin of the distinctions between primary, grammar, and high-school education. They originated in the distance the child was supposed to be competent to go from home, and in the size of the groups which could be so segregated. Is not that the mechanical origin of a very serious difficulty in public schools as they exist to-day?

Can we see any dividing line at all in the continuous process of education which might perhaps define two dissimilar epochs? I must confess that I discern but one such epoch-marking line in the whole process of education,—the line at which a boy or girl had better go away from home for further training.

Nations differ somewhat in placing this line. The German puts it at nineteen to twenty years of age. That is about the age at which English boys leave schools and go to universities. Among the French, Italians, and Spaniards this limit is placed at least a year earlier. It seems to me that American boys and girls have generally arrived at a formed character by the time they are eighteen years of age, or, in other words, that the moral quality of the child is in most cases—not in all—determined by that time. I believe, therefore, that age to be a good one for taking the child out of the home, and putting him or her into a group of contemporaries for the further pursuit of education, giving the child a great deal more freedom in the conduct of its own life than it has had before. I know no other natural dividing line in education. Puberty does not seem to me to afford any distinct line of

division. I think it would be a positive injury to American education to have hundreds of thousands of our children deprived of this opportunity of liberty until they are twenty years of age. That is altogether too long to wait for the liberty in which the highest training must be procured,—the only atmosphere in which the highest training of mind and character can ever be procured. I take that to be fundamental doctrine in a country whose institutions are based, or used to be based, on bold conceptions of individual and social liberty.

Adopting for the moment this age of eighteen as the age at which our boys and girls had better go away from their homes, or from day schools, to the normal schools, colleges, and technical schools, what better use can be made of the years before eighteen? That, I hoped, was the question before this body to-day. I thought also it was the lower grade that was going to attract attention rather than the upper. The scheme which is on the board before us of course deals with that subject.

The needed changes are really changes in the character of the studies in these twelve years from six to eighteen years of age. Do we not all know that the very peculiar segregation of studies in what we now call the high school is an unfortunate thing for the mass of school children from six to fourteen? Do we not all know, for instance, that the postponement of the attack on languages until the child is fourteen years old is entirely erroneous and injurious? Do we not all appreciate the fact that a child of nine can very profitably attack any foreign language, ancient or modern? Do we not all know it to be preposterous that serious observation studies should be postponed to fourteen? We were just reminded that botany is not taught even at fourteen. There are beginnings of what may be called nature studies in the lower grades, and these are helpful and hopeful; but observation studies are not pursued in the lower grades to anything like the degree they ought to be, being not attacked early enough or with vigor enough. Observation studies and language studies, with the barest elements of arithmetic and geometry, are the proper

materials for the lower grades of school life. But many of these desirable studies for the first eight grades have been held back and kept for the high school,—that is, kept for a small proportion of all the children in the land. Every child in the land ought to have the chance to attack languages. Every child ought to have a chance to get far ahead,—not, of course, in an elaborate or very systematic way—in observation studies: in botany, zoölogy, and physics. What hinders this result? The greatest hindrance is the actual holding back of many of these studies for the high school. One of the methods of avoiding this evil is a six-year course in the high school. That would be a gain, because it would enable the high school to deal with several of the subjects I have mentioned in a more effective way and at an earlier age. We have had some opportunities to study this question. There are a large number of academies and private schools in the country which have already done this very thing. They have the privilege of keeping their children for six and sometimes eight years; and I hear from masters of such schools on every hand that there is no difficulty at all in preparing boys for Harvard College under those conditions by the time they are seventeen years of age. In four cases this year I have been asked, "What can the boy do who is ready to go to college from my school before he is seventeen years of age? What would you advise him to do,—go to college, or spend the year till he is eighteen years old in some other way?" We may be perfectly sure, ladies and gentlemen, that if we could get a six-year high-school course thruout the country, the difficulties of fitting boys and girls for college, or technical school, by the time they are eighteen, would absolutely disappear, under the existing requirements for admission to colleges and technical schools. The trouble, and the whole trouble from the high-school point of view, is that the school has but four years to fit for college in, whereas the whole process thru the twelve grades ought to contribute to the desired result.

Shall I be answered that it is not the function of American schools to fit children for college or technical school? I

answer that a course of school training which would fit for colleges and technical schools is the best course for all the children, no matter at what age it may be interrupted, if that course is well laid out, and contains a due proportion of hand work and music. I noticed just now that this audience laughed when music was mentioned. I wondered why. Music is a culture subject, if there is one in the world, and music was an element in the first course for the bachelor's degree of which we have any knowledge: *Lingua, tropus, ratio, numerus, tonus, angulus, astra.* I mention with pleasure that we have this year admitted among the subjects which may be counted for admission both to Harvard College and to the Lawrence Scientific School harmony as the elementary subject in music, and counterpoint as the advanced.

My argument, therefore, on the limits of secondary education tends to show that the lower limit of secondary education should be moved down; and the farther down you can get it, the better. But I should like to go beyond that, and to urge on you that there is no distinct limit at all between elementary and secondary education, that the organization should be all one from six years of age to eighteen, and should be expressly developed as a unified, progressive thing.

I have heard once more to-day an objection to the present program of high schools which I have often heard before,—namely, that there are now too many subjects in high-school courses. In the first place, it is to be noted that there are not as many subjects demanded of the present high-school pupil in the city of Boston as there were in the first high-school course that was ever adopted for that city, namely, the course laid out by Mr. George B. Emerson when the English high school was first established in Boston. That program contained more subjects than are required now of any pupil in the Boston high schools, yet the course in the first English high school was all required of every pupil. We should observe very carefully this distinction in considering school programs,—the distinction between the number of subjects taught and the number of subjects required of the individual pupil. In short, the remedy for too great a number

of subjects in the high school is election among subjects, the remedy which was long ago forced upon the colleges of this country by the multiplicity of the subjects they were required to teach. There is the same remedy for too many subjects in the high school. Don't force them all on any pupil, but give the pupils their choice under reasonable regulations.

I was delighted to see how far the city of Boston has gone in this respect in its evening high school. It struck me that the evening high school was more truly an institution of the higher learning than any of the day high schools. At any rate, it offers more advanced subjects to its pupils.

The remedy thruout the entire course of education, from kindergarten to university, for too many subjects, is simply the selection of subjects by individual pupils. That is one of the very great advantages of the elective system in general, —that it prevents the dispersion of the individual mind over too many topics. That is to say, it enables the individual pupil to be thoro. This principle of many subjects taught, few being selected simultaneously by the individual pupil, should in my judgment begin very low down in any large school system. It certainly must begin by ten years of age if we are to get successful results in any large urban system. Too many subjects should not be forced on any individual pupil. There is help and promise there for the great task of laying out anew the course of education from six to eighteen years of age.

Charles W. Eliot

Harvard University

VI

EXPENDITURES FOR PUBLIC SCHOOLS

I suppose that we all, as schoolmasters and schoolmistresses, agree unanimously that we want more money to carry on schools. Well, a much larger number of people will agree unanimously that they want more money to build and pave streets, and there are still other people who would agree unanimously that the city must provide itself with parks and playgrounds, and gymnasiums and bathhouses, and all that sort of thing. They all agree unanimously, each set of people, in favor of the object which is nearest their hearts. So it is perfectly natural for us to agree that the larger the sum of money we can get the better, and to convince ourselves by a very easy course of reasoning that we need more money.

I saw in the paper this morning the request made by the Schoolhouse Commissioners of Boston, that authority might be given to borrow this coming year a million and a half of dollars for new schoolhouses and school sites, and that that was cut down by the blue pencil of the Committee on Finance and made a million. It ought to be at this moment five millions. We are modest and ask for a million and a half, and we get a million.

I think that we ought to bear in mind, however, that the taxpayer has his rights, that it is not safe for the educational authorities to go far and away in advance of the taxpayer's ability to follow you in his appreciation of your efforts and in his payment of your demands.

Take it in a town. The superintendent and his school committee have to deal directly with the people. They know that they will be supported in the effort to have good schools just so far as they can prove to the people that the schools are good, really good as they, the people, apprehend good-

ness. A superintendent and school committee who get far and away beyond what the people are prepared for will be apt to find a reaction setting in,—" a war upon the fads," as it is sometimes called,—and a school committee elected for the purpose of cutting off the frills and the fads, a school committee to promote " economic reform," as some people would prefer to call it. But however that may be, the educational people, the superintendent and teachers with the school committee, are in direct contact with the money-giving people, and they can arrive at their decision by means of a first-hand discussion.

When you come to the city organization the matter at once becomes more complicated. The school committee and those associated with them are always ready to urge the needs of the schools for more money. The city council, if it be the money-granting power, having its attention fixed on other items of expenditure, is very apt to assume an antagonistic attitude toward the school committee. The school committee stands for enlarging the usefulness and the efficiency of the school system, and consequently asks for more and more money. Progress in the schools always means more money, they say. But the city council is apt to assume the opposite attitude and say to the school authorities, " You are extravagant, your estimate must be cut down. We cannot and we will not raise the rate of taxation in order to cover the extravagances of the school administration." That is the state of mind which goes on from year to year, and the two powers come to an issue or open conflict now and then, and then, of course, the dispute has to be settled by reference to the people.

To illustrate: I can recall one or two occasions within the last twenty-five years when the estimates presented by the school committee to the city council were very largely cut down, for the reason that the Mayor or the aldermen or the common council thought that too much money was going to education, and not enough to pavements, bridges, etc. The school committe under the laws of the State, however, had power to make contracts which would last thru the calendar

year, and to pay the salaries of the teachers on the basis of such contracts. If the school committee chose, as it did choose on one or two occasions, to say, "In order to save the money which you have subtracted from our estimate, we will close the schools say, on the 1st of March," the city council has never been willing to join issue and go to the people. No city council has dared to submit an issue of that kind to the people, knowing perfectly well in which way the people would settle it. Such a settlement would prove two things: that the people believed in their schools and believed in spending all the money which ought to be spent to sustain them as they had been sustained.

I find that my mind is running on Boston, and that is natural, perhaps. In order to do away with the possibility of coming into conflict with the school committee, the Mayor some years ago proposed a new law providing that the school committee should make its own assessments, the city council should make its assessments, both confined by a definite limit. The limit was to be $10.50 on every thousand of the average valuation for the past three years. Of that $10.50, $3 and no more might go to the schools, and the rest to other city purposes. Now the school board has to face, not an unsympathetic or a hostile city council, but a statute which cannot be changed except by application to the legislature.

Under the administration of a body like the Boston school committee, a legislative body consisting of twenty-four members, we may feel pretty sure that all the money available in any year will be appropriated and spent in that year. Such a thing as carrying over any considerable unexpended balance from this year to the next seems to be entirely foreign from the habit of thought engendered in a legislative body either large or small. We have just witnessed the close of a congress which has appropriated a billion and a half dollars, and you may go to the smallest legislative body and you will see the same phenomenon. All legislative bodies, unless they happen to be composed of a majority of sane men, will appropriate and spend all the money they can get hold of.

Therefore, it is somewhat inconvenient to work with a fixed statutory limit on expenditures or on appropriations.

This was illustrated this last winter very strikingly in Boston. All the money coming to the schools under the statute was appropriated, and the item for coal and wood for heating purposes was $92,000. That item in the appropriation was fixed before we had heard of the coal strike in Pennsylvania. Well, the strike in the coal mines came, and we found the price of coal running up so that this coming year it will be necessary to appropriate $200,000, more than double, for coal and wood. Inasmuch as the former appropriation went close up to the statutory limit, the rise in the price of coal has just left the school board a little over a hundred thousand dollars in a hole, with no means of getting the other hundred thousand dollars except by cutting down the teachers' salaries or by cutting off some of the "frills and the fads," or by going to the legislature and asking for leave to transfer money for running expenses from the appropriation for school buildings. This is inconvenient.

I thought that you might be interested in glancing at the items on a tax bill. But before I read these items I must tell a bit of history.

Some fifteen or twenty years ago there was a good deal of talk all thru the city about the extravagance, the senseless extravagance of the school department. Of course we all understand much of that talk was for political purposes, intended for political consumption, but still it impressed a good many people's minds, and it was the general belief about election day that the school committee was a very extravagant body, and that for the city council to yield to its extravagant demands for money was almost criminal. It was also believed that a city council ought to be elected that would keep the school department down to where it ought to be in the matter of expenses. Some clever men devised this notion, that on every tax bill that was issued there should be printed a statement of what the tax rate was—say $14.80—and that the tax rate for the schools should also be printed, so that the people might have a chance to

see how enormously extravagant the school board was. Well, they did that, and they rather hugged themselves and threw a few bouquets to each other over the cleverness of their invention. But the result was curious. People looked at their tax bills and said: "General tax rate, $14.80; for public-school expenditures, $2.98. Oh, is that all? Is that all? After all this talk about the extravagance of the school committee, is that all they spend? Well, they ought to have more." So the whole device of printing this thing on the tax bill turned out to be something of a boomerang. This happened some years ago.

Still this tax bill for 1902, which I hold in my hand, gives this information to the taxpayer. It says the State tax is $1.07, county tax, $0.89; city tax, $12.84; total, $14.80 on $1000. Then the statement is made that of the city rate, $12.84, $2.98, is for public school expenditures. Then to give the inquiring taxpayer more information, we have the detail of the general appropriation, and it appears that the school department is down for a larger item than any other department. It may be interesting if I read a few of these figures. Beginning with the top of the column I read: "For the school department $3,494,487.69"—three millions and a half, practically. Then comes the street department, $3,213,000; you see it is not as large as the school department, but it is still very large. Then comes the interest on the city debt, $2,117,000. The police department, a million and three-quarters. Sinking fund, a million and a third. (I am rounding these numbers.) The lamp department, three-quarters of a million. Public institutions, hospital department, parks, etc., for smaller amounts; and then there is $1,010,000 for county expenses, about a quarter of a million more for interest on the county debt, and then two and one-half millions for general purposes. Total, $19,425,152.69. So that the school department is down for the largest item in that list, and it takes eighteen per cent. of the whole appropriation.

Now to see whether the city was going forward or backward in the mattter, I put together a few figures from former

years in order to compare with this. This year the school appropriation is eighteen per cent. of the total. In 1886, the financial year, the school appropriation amounted to fifteen and one-half per cent. of the total appropriation. Ten years later, 1895-96, the ratio was precisely the same, down to the first decimal place. Last year the school appropriation amounted to sixteen per cent. of the total—an advance of one-half per cent. As I say, this year there is another advance of two per cent., carrying it up to eighteen per cent. The average valuation for the last three years, forming the basis on which this money is raised, is $1,114,-501,306. Those are large sums of money, but Boston is a large city and a rich city, and it may be that we ought to spend, instead of eighteen per cent., twenty per cent. or twenty-five per cent. Theoretically I am willing to accept that conclusion, but, as a practical man, I cannot promise myself very great success in laboring with a view of persuading people generally to adopt the same conclusion.

If I am not taking too long a time, I want to point out briefly, if I can, the situation with regard to new schoolhouses for the purpose of accommodating the rapidly-increasing number of children.

The number of children in the public schools of Boston has been growing for the last six or seven years at an average rate of 2500 children a year. Last year there was an incraese of about 3000, and this year, in October, when I put the figures together, I found that the increase between October and October had been 3620. Now, what does that mean? It means, first, a great demand for temporary accommodations. It was necessary to build between forty and fifty portable buildings last summer, each building to contain fifty pupils, and there we stowed away this large increase which I have just spoken of.

That is only the beginning. By comparing the annual increase in the number of pupils year by year with the annual outlay for schoolhouse sites and new buildings for a long series of years, it is possible to come to a pretty accurate conclusion as to the cost entailed upon the city by a given in-

crease in the number of pupils. By going back thirty years I find that the cost entailed upon the city in this way was formerly much less than it has been for the past ten years. Changes in the style of building, necessitated by the building laws, applicable to the city, and necessitated, too, by a standard insisted upon by the people, have increased the cost. It is a moderate statement to make now when I say that a child added to the public-school enrollment of the city of Boston entails upon the city for new buildings and school sites an outlay of $250. That is a moderate estimate. Therefore, the 3620 additional pupils, you will see, entail upon the city ultimately—supposing it to be a permanent addition—an outlay of $900,000. In other words, what they propose to borrow this year, one million of dollars, is hardly more than enough to cover the current needs created by this growth in the number of children. And yet that million is needed, not to cover current needs at all, but to cover needs that accumulated four, five, or six years ago. A growth of 2500 pupils per year, you see, entails a cost of $625,000, considerably over half a million. The outlay for new buildings was less than half of that amount for a series of years, and to-day the city of Boston is several years behind in point of providing adequate accommodations for the children that are crowded into its schools.

They have been borrowing money and will continue to borrow money for some time to come in order to cover the accumulated needs, and, meanwhile, little is done for current needs. Last year the law allowed the school committee to assess nearly half a million dollars to cover current needs. The existing law recognizes the necessity of providing for current needs, and gives the school committee power to levy an assessment, forty cents on a thousand dollars of valuation. That, last year, would have given the school committee $446,000 with which to meet these accumulating current needs. The school committee did its part, made the assessment, but, unfortunately, his Honor the Mayor did not see fit to approve of that action, and so the year has passed without raising any new money by taxation. But you see

if we cannot borrow the money and cannot raise it by taxation, we have got to allow our scholars to accumulate, and wait for something to happen. It is not always clear to see what.

Well, after all, I believe that we are all in duty bound to take an active part in the campaign of education for the purpose of persuading the people in general, voters and taxpayers, that we need a great deal more money for our schools. I have spoken of only one aspect of the general question. There was another aspect of it brought to the general attention quite emphatically a few weeks ago when President Eliot said that we should have one teacher for every twenty-five pupils, instead of having one teacher, as we now do, for over fifty. Well, that would add only a couple of millions to our budget, and I agree with him that it is highly desirable.

EDWIN P. SEAVER

SUPERINTENDENT OF SCHOOLS,
BOSTON

VII

EXPENDITURES IN EDUCATIONAL PHILANTHROPY

Philanthropy has corrected its mistakes in large measure by taking to itself the motive of education, and, nowadays, every sort of philanthropy which is worth anything endeavors in all its undertakings to secure an educational result. Not only that, it endeavors more and more, as all wise systems of education do, to put itself in a position to learn what the need is. The teacher must kneel before the child, must learn first of all from the pupil, in order that he may safely and effectually instruct the pupil. Educational philanthropy is educational and has educational value because more and more it gives a great deal of time, takes a great deal of pains, in order to find out the actual conditions in which the people live who need to be influenced and helped.

Mr. Seaver has pointed out to us very clearly that the problem of educational expansion is first of all a financial problem. In educational philanthropy that financial problem is gradually being met by the concrete demonstration that comes from results. During the past few months a very interesting study has been prepared by the Institutions Registration Department of Boston. This study presents the statistics for juvenile arrests during the past ten years. It shows that during those ten years the number of juvenile arrests has decreased in a proportion varying from twelve to twenty per cent. The statistician who has prepared these tables gives a tentative explanation for the decrease. He says it has resulted in the first place from wiser ways of dealing with neglected children, and in the second place from the manifold efforts which are now being made thruout the city, to direct youthful energy in healthful channels. When educational philanthropy can present results of that kind,

when the information as to those results can by a sort of vital process and motive be got into the minds of thinking people thruout the city, such people are going to see the value of an investment of that sort, and are going to be willing to pay more in taxes for carrying on the work of educational philanthropy.

A great part of the effort of those who are endeavoring to promote educational philanthropy is to explain to intelligent persons thruout the community just what the need is of new enterprise in that direction, and to explain to such persons in very concrete fashion its definite results. In other words, educational philanthropy has a mission to the educated classes and the resourceful classes quite as distinctly as to those who belong to the less privileged ranks in life.

In the first place, those of us who are interested in this method feel very strongly there must be a greater extension of effort in the way of physical education. We have now in Boston, as many of you know, a remarkable series of public baths, public playgrounds, and public indoor gymnasiums. All of these institutions are used up to the limit of their capacity. The effort in the playgrounds and in the gymnasiums is constantly to raise the standard of instruction, and to make the opportunities of these institutions available in the fullest degree to both sexes and to adults as well as to children and young people. One very interesting use to which the gymnasiums are put is that of providing the right sort of physical training for young men who are later on to enter the city's service in the police department and the fire department. Those departments are an object of ambition to many young men in different parts of the city. These young men now find a chance such as they never had before to get the appropriate training. Since the city gymnasiums began their work five years ago the standard for the physical examination for entrance into these departments has risen nearly twenty per cent. It was formerly about sixty-five per cent., it is now over eighty per cent. Here in very definite fashion is a result which the intelligent taxpayer must in due time take account of. He must begin to see

that it is an excellent financial investment for the city to provide agencies thru which the men who are going to serve the city in important ways in the future shall receive a suitable training, and thru which a higher and better type of man can be secured. Those of us who are interested in these city gymnasiums believe that before many years go by we shall be able from definite statistics to prove that there has been a raised standard of public health, of public morals, and of the productive capacity of the mass of the people in the city as the result of the opportunities which the gymnasiums furnish. If that proves true, it is going to be possible to put before the thinking taxpayer a result which will show the value in dollars and cents of this type of public investment.

Then, too, educational philanthropy concerns itself with what cannot be spoken of more accurately than to call it social education. A great many people think that settlement work concerns itself largely with gayeties. It does. Many boys and girls in settlement clubs are more interested in dancing and in amateur dramatics than in anything else. But we find that interests of this sort may be made the means for securing the most important educational results. Often you can secure points in character when you speak of deportment which you never could secure in any direct way. Very often you can accomplish in your dancing class certain ends which you could not accomplish in your Sunday-school class, in the way of permanent growth in character. I have many times seen boys that had never really made any achievement in their lives before, who undertook to present a little play, and who, perhaps, got tired before their parts were learned, and almost had to be galvanized into carrying the rehearsals thru, and presenting the little play at the end; but having given the play in the face and eyes of their friends and neighbors, those boys came to have that wonderful sense of having brought something to pass, and the finished result gave them a self-respect and a confidence which they never otherwise would have had. Achievement has registered a distinct upward step in the lives of those boys.

In these simple ways educational philanthropy attempts to

take the social life of crowded neighborhoods, to begin with it where it is, and to direct it along helpful channels. We are beginning, I think, in all our great cities to see the absolute need of just that sort of social training. It is a curious fact that we are very slow about taking progressive steps for public improvement until we are compelled to. The history of sanitary improvement in the cities both of Europe and of this country will show that great steps in the direction of sanitary improvement have rarely been taken except as the result of some dire plague. Cholera or smallpox has compelled the cities of Europe and America to organize their boards of health and to develop thoro, effective methods for urban sanitation. It may be that that will also be true with regard to the moral health of the city. Certainly those who have watched the condition of things on the East Side of New York during the past four or five years must have seen that there is a moral contagion and pestilence that comes out of the life of a great tenement district, which in due time, by sure compulsion, will necessitate on the part of the city, either privately or publicly, the careful, systematic organization of such facilities for social intercourse as shall lead in the direction of intelligence and character instead of toward moral destruction.

And then, too, educational philanthropy concerns itself quite definitely with experiments in the direction of training for vocation. One of the things that strike you most strongly in the life of a working-class district is the fact that boys and girls, as they leave our public schools, have no sort of training to fit them for entering upon some permanent employment. To a very large extent, when they leave the grammar schools they go into some sort of calling which is essentially juvenile. The boys become messenger boys or go into the newspaper or boot-black business, while the girls become cash girls in the great stores. The difficulty with those callings is, that a young person will follow them for three or four years and at the end of that time be no farther on in his substantial preparation for a life work than he was at the beginning. It is highly important that we should de-

velop educational resources for training those young people to fulfill some increasing use in life. The task of educational philanthropy, wherever it is found, is to a very large extent that of endeavoring to fit boys and girls, during the years after the grammar-school stage, for taking up some definite industrial career.

Another significant aim of educational philanthropy is that which was suggested by Dr. Felix Adler when he said that just as there are life-saving stations along the seacoast, so there should be talent-saving stations along the shores of poverty. Thruout this country I believe only about six per cent. of the boys and girls get beyond the grammar school. In a city like Boston, possibly as many as twenty per cent. go beyond the grammar school, tho that is perhaps a high estimate even for Boston. This means that eighty or ninety per cent. of our boys and girls do not get beyond the grammar school. Take twenty per cent. for Boston. That is, speaking roughly, the proportion of the population which may be credited to the professional and commercial classes; the working classes amounting to about eighty per cent. of the population in a great city. Speaking roughly, then, the children of working-class families do not go beyond the grammar school. Anyone who has worked in a crowded district in any of our great cities knows that there are numerous cases of exceptionally bright boys and girls who are prevented from going on into the secondary school on account of the poverty, or ignorance, or indifference, or all three combined, of their parents. It is certainly an anomalous situation that if a boy or girl can persevere thru the secondary stage and get as far as the collegiate stage, he finds very great resources to help him on thru the collegiate stage of his education; while large numbers of promising boys and girls are stopped in the course of their education at the beginning of the secondary stage. It seems to me there could hardly be any better investment of money than thru the provision of scholarships by which exceptionally bright boys and girls whose parents are poor, too poor to send them thru the secondary stage of their education, could be sent on thru the

high school. Some efforts are now being made in that direction, and there is certainly no more interesting line of experiment for educational philanthropy.

I feel very strongly, as I said at the beginning, that it is necessary for all of us to take upon ourselves the responsibility of educating the thoughtful people in the community as to the place which education has in the building up of the community. We take that fact too much for granted ourselves, and we do not take measures to have other people understand it. For instance, in the city of Boston, with its enormous expenditure, involving enormous drain upon the taxpayers, a great part of the expenditure which comes thru taxation goes to support institutions which gather up the evil results that come from a bad and bungling scheme of civilization, from an insufficient system and scheme of education. The city hospital, which is one of the finest institutions of its kind in the world, is yet rendering a service the need of which might be in part obviated. The city hospital costs more than a thousand dollars per day. We have our houses of correction, which cost $600 per day. We have our almshouses and institutions for neglected children; we have our police force, which comes next to the public schools as an item of public expense. The question is going to be asked before long, from a purely financial point of view, whether there is not some way by which a portion of this vast outlay for the negative, superficial treatment of social evils can be cut off. In due time we shall be able to show to the hard-headed taxpayer that by the establishment of public baths, public gymnasiums, public playgrounds, by experiments in the direction of educational philanthropy, a way may be found to cut off some of that expense and to relieve the city decisively and permanently of some of that burden.

But there is a far more forcible line of argument in support of these experiments in the direction of educational philanthropy. The prime source of the wealth of any country or of any city consists in the productive capacity of its people. We have been depending all along upon importing productive capacity into the city from the village, American and

European, but we have got to learn some way now by which we can develop productive capacity within the life of the city itself. It is only thru a broad, thoro-going system of education, that will touch all sides of life and provide for all the practical needs of life, that we shall be able to develop that productive capacity. And if we can show to the thoughtful citizen that education is reaching out in order to bring to the light and to bring into full power the variety of latent productive capacity that is born into the children of the mass of the people, then I believe that we shall have an invincible argument in favor of a higher rate of taxation for educational purposes and larger appropriations for the support of educational enterprise.

ROBERT A. WOODS

HEAD OF THE SOUTH END HOUSE,
BOSTON

VIII

THE COST OF EDUCATION

The speech of Mr. Woods [Art. VII] is one of the best educational speeches I ever heard. It is perfect as regards the educational motive to be presented to a child—achievement. That is the best motive in all education—the joy in achievement. Keep that before a child and you can lead him anywhere.

I had rather a striking illustration of that educational method after a Sunday-evening talk I lately gave to newsboys in Boston. It was one of the best audiences I ever had—attentive, and very keen, indeed. After the lecture was over, fifty or sixty of the boys gathered round me on the platform, very close up, and we had some conversation. I didn't want to go away, but the president of the newsboys thought it was time I should go, lest I get tired. He helped me into my coat, and I walked down the aisle of the hall. These fifty or sixty boys who had been on the platform followed me. They followed me downstairs, and out on to the sidewalk. I didn't know how far they were going. But the president again interfered, saying: "Now, stop right here. Don't follow him any farther," and I found myself going up Bromfield Street alone. But when I got to the sidewalk of Tremont Street on my way to the Subway, there was a boy beside me, suddenly, who said: "I wish you'd tell me, sir, how I can get into Harvard College."

"My boy, how old are you?" "Thirteen and a half, sir." "Where do you live?" "In ———." "You are a newsboy?" "Yes." "You went thru the grammar school in ———?" "Not quite; I couldn't get all the way thru. Had to work."

I remembered that there was a good high school in ———, and asked where he roomed.

"In my father's house, sir—at home." "What does he do?" "He is a laborer, sir." "You have been a newsboy some time?" "Yes, three years." "Can't you go to the ——— high school, and live at home?" "Yes," said he, "I might. I could keep my room anyhow." "What do you want to do?" "I want to go away to school somewhere, sir, where I can get fitted for Harvard College."

I saw clearly that he wanted to escape from the home environment.

"Have you got any money? Can your friends, can your family, help you?" "My people can't help me," said he, "but I have got some money." "How much?" "In the last three years I have laid up $945." "Where is it?" "In four savings banks, sir. My sister puts it in for me."

That boy had achieved something which makes sure his future. I told him how he could use his money to advantage, and I fully expect to see that boy in Harvard College within five years. That achievement, that laying up over nine hundred dollars before he was fourteen years old, proves the quality of the boy, and, moreover, has filled him with a spirit that will carry him far. That boy will at every stage work to achieve. If only you can get small children to achieve something, you may be sure of their future.

There was another capital point in the address which we just listened to—efficiency, productive efficiency—is what we ought all of us to make our aim in education. That productive efficiency comprehends morality, character, intelligence, and vigor. It means prosperity and progress for the effective individual, and for the effective nation. It should characterize the withdrawn scholar, the active professional man, the mill-agent, the mine-owner, and the banker, all alike. That is what we ought to care for in education.

Mr. Woods also touched upon the fact that we have apparently got to persuade the community that expenditure upon education is the most profitable of all the public expenditures. We do not seem to realize that. It is not only the most profitable, it is the one indispensable. Mr. Woods said that the public expenditure on police comes next to the expendi-

ture on schools. I think that if the expenditures on police, courts, reformatories, prisons, and so forth, be added together, there are many American communities where the expenditures on those protective and punitive powers in the community far exceed the expenditures on schools. To keep down the poisonous fruits of poverty, ignorance, and vice we pay more than we are paying to dig out the roots of those pestilent weeds.

Mr. Seaver has put before us the facts in regard to expenditures for schools in Boston, and the limits on expenditure imposed by the State thru laws regulating city borrowing and tax-raising. Those limits are real things, and well-meant things, but they are precisely the obstacles which all people interested in the development of education ought to attack. To what is due the scantiness of expenditure on education to-day? It is, I believe, due largely to three things: First, to the failure of the people to understand the indispensableness and supreme profitableness of educational expenditure. Secondly, to the fact that we do not raise taxes enough in any of our communities, and particularly in any of our cities and large towns. When I say that we do not raise taxes enough, I mean that thousands of persons do not pay the taxes they ought to pay. I am not referring at all to tax-dodging. That is a mere symptom of the disease. The disease is our policy of trying to tax things invisible. That is the main reason why tax-paying in the American communities is so unjust and so inadequate—not only unjust, but utterly inadequate. I see hundreds of men, my own acquaintances, who are not paying anything like the taxes they ought to be paying, simply because we in Massachusetts attempt to tax things we cannot see, and do not tax what is always visible—the style of living. This is one of the evil things which should be attacked, and convicted of sin. We ought all to combine to expose and remedy this source of innumerable shortcomings in our American communities, the source—it is this which most afflicts us—of inadequate expenditure on the public schools. Thirdly, all teachers and all public schools are suffering at

this moment from the recent extravagant rise of prices—prices of labor, and prices of all commodities. I am twenty per cent. worse off now than I was three years ago, so far as my cost of living goes, and my earnings have not increased; and I have no doubt that all of us in this room have had this experience. If we are in that condition, at least eighty per cent. of our community are in some degree worse off than they were three years ago. All the so-called laboring classes are worse off than they were three years ago. We are of the laboring class. We know what the effect of this unreasonable rise of prices is. It takes hold of the schools in this way: the rise of price of all materials of construction and all labor has increased the cost of schoolhouses enormously; it has also increased the cost of everything that has to be supplied to schools, and of all repairs and all maintenance. Here is a great evil which is the result of national legislation and not of State or city legislation.

The two economic evils I have mentioned lie, of course, quite beyond the province of organized education. They lie deep down among the roots of our industrial and legislative systems.

Last October I delivered three lectures on our low expenditure for public schools. An abstract of the first one was published, but nothing about the other two, until the *World's work* for December gave the last of the three. On the strength of the abstract of the first, my friend Mr. Dooley imagined that I had become a pessimist. The three lectures will shortly appear together in a little book, which I hope will persuade him and you all that I remain an optimist.

Charles W. Eliot

Harvard University

IX

THE SUNDAY-SCHOOL PROBLEM [1]

May I say at the outset that this question of the Sunday school is by no means a simple one even from the standpoint of educators, who are accustomed to consider educational questions of all kinds. Probably at no time in the history of the world has so much attention been given to public education as has been given during the past twenty years, and probably at no time have questions concerning that education been more unsettled in the minds of thoughtful men than they are at the present time. If the questions are unsettled and uncertain respecting the organization and education of our public schools with all the aid of professional teachers and with the moral and financial support of the state, how much more difficult for solution must be questions relating to Sunday schools, which are conducted largely by non-professional teachers and which have no financial support outside of the Church. The difficulties in the organization and instruction of Sunday schools are still further increased by the fact that there are involved in that work principles not only of psychology and education, but also of religion itself. These circumstances all urge us to be most considerate in our judgment of present practices, tolerant of the opinions of others, and cautious in our recommendations of reform. They assure us that the questions pressing for settlement cannot be decided in a day or by the judgment of any man or body of men. We are assured above all that these questions, so far as they relate to religious instruction, cannot be settled by any demand that the institution of the Sunday school be swept by the board, on the plea that it takes upon itself the

[1] This paper, under the title of "An Educator's idea of the Sunday school," was read in Boston, February 9, 1903, before a joint meeting of the Congregational and Baptist Sunday-school Superintendents' Associations of Boston and Vicinity, and by vote of the associations its publication was requested.

function of the daily school and the home. For since most of the homes do not have any form of religious instruction and in this country the schools may not have such instruction, it devolves upon the Church to maintain that training which is necessary to its existence and which in the opinion of many has such a large part in shaping the lives of men. Moreover, the institution which has for its beneficiaries fifteen million children in this country, and which has a million and a half of voluntary workers, is too strongly intrenched in the life of the people to be lightly brushed aside. The Sunday school, therefore, is a fact to be reckoned with as one of the great instrumentalities in the education of the young.

From the wording of the subject assigned me, I judge that I am expected to speak of present practices of Sunday schools and possible means of their improvement in the light of modern education. This I shall try to do, yet I cannot forbear asking that a liberal interpretation be made of the term educator, so as to permit me to speak for a moment upon what I conceive to be the true aim or function of the Sunday school; for the reliability of one's judgment respecting any work will depend, in part at least, upon the clearness and correctness of one's conception of the end in view.

What, then, shall we say is the chief function of the Sunday school? If we say, as one very thoughtful writer says, "it is the agency, supplemental to the home, where children and young people are taught the Christian religion of love and service" we may agree, and yet not find such a statement of aim particularly helpful in carrying on a successful school. Or if we say that the Sunday school is to lead the children to know and love the Bible the statement is incomplete as a guide, for the Bible has many features. It is a book of biography and history and of literature and ethics. It is also a book of religion. It becomes practically necessary, therefore, if the Sunday school is to give Bible instruction at all, for it to give such instruction in all these aspects. It is not only practically necessary for it to give such varied instruction, but it is psychologically and spir-

itually best for it to do so, as I shall try to show later. So far, then, as the children and youth come to know the chief events recorded in the Bible, to understand and appreciate some of its inspiring literature, to have in mind its noble precepts of moral and religious life, and to look to it with reverence as containing messages of love from God to men, so far will the Sunday school realize its high ideal as a means of spiritual culture.

If these ideals of the Sunday school are in any degree correct, we are prepared to ask how closely they are met at the present time and whether the means and methods of Sunday schools now employed are as effective as they should be. There are three ways of ascertaining the worth of our Sunday-school work: (1) by direct observation, in which both results and means are observed; (2) by the testimony of persons who are engaged in the work of Sunday schools, and (3) by inference, in which a judgment of results is rendered from given conditions.

I have endeavored in all ways within my power to ascertain what the Sunday schools are accomplishing, both from a careful observation of lesson plans and of work done and from the opinions of a large number of persons now engaged in Sunday-school work. I have given questions to grammar and high schools, with a view of ascertaining how much of Bible history is known by the pupils. I have observed the work in several Sunday schools and have recalled my own experience as a Sunday-school teacher and superintendent. And in all these inquiries I have kept constantly in mind two paramount questions: (1) Is the letter of the Bible being taught so as to be understood? (2) Is the Bible taught in such ways as will be likely to induce a reverent attitude of mind toward it?

Actual results in this, as well as in every other department of education, are difficult to measure. The tests were given to grammar- and high-school pupils and included difficult questions, such as what is meant by Baal and Ashtaroth—and easy questions such as the story of Joseph. I have found that in grammar schools there is a marked ignorance along

both lines of inquiry, while in high schools there is a good proportion of pupils who seem to be fairly familiar with the stories of the best-known characters, but who know little of the details of Bible history. I have made no tests of what the pupils can repeat by heart in what may be called the great didactic and inspirational parts of the Bible, nor has the inquiry in other directions been so extensive as to enable me to make any deductions as to the best conditions of success. The general conclusion that I have reached is that the Bible is not known so well as it ought to be, nor so well as I believe it can be even by the instruction of the Sunday schools alone. But I believe that this part of the work of the Sunday schools, viz., the merely instructional part, in which facts alone are imparted, is far better done than that other part which, for want of a better term, I shall call the inspirational part, by which I mean the awakening of a spirit of reverence for sacred things, especially for the teachings of the Bible. The attitude of mind in which many pupils of the Sunday schools receive Bible instruction is either that of dull indifference or frivolous disrespect. This criticism applies mainly to pupils of early adolescence or pupils from twelve to sixteen years of age. I may put too high a value upon the spirit of reverence, but I go so far as to say that while the purely secular work now performed by the Sunday school may justify present methods of organization and teaching, the evident failure to secure an interest in the Bible and a sacred regard for its teachings is warrant sufficient either to excuse from attendance all pupils that are not willing to give a cheerful attention to the work, or to entirely change the organization and methods of teaching now pursued. I believe that it is far better to have little knowledge of the Bible, with reverence for its teachings, than to have much knowledge without reverence. Believing this, I am consistent in saying that it would be better for children to remain at home than to go to the class for Bible instruction in which there is talking and jesting about petty affairs, or any degree of indifference to the subjects taught. Nor to my mind is it much better to enforce attention and external

good behavior by stern command. There can be no spiritual good in an enforced attitude of respectful attention in Bible study, and there may be much harm in such forced attention by leading the children to associate the Bible with unpleasant feelings and thus lead them to turn away from it. There is an important psychological principle involved in this matter. Children are glad to repeat an act which is attended by pleasant sensations, and it is thru these frequent repetitions that habits are formed. The difference of states in which the Bible is read or studied makes the difference between being drawn to and being repelled from its teachings, and hence the difference between readers and non-readers of the Bible.

There are obvious reasons for the present ignorance of the Bible and indifference to the work of the Sunday school, some of them, doubtless, being those which are in no way connected with the Sunday school. The mistaken place of external pleasures in some communities, where they are made the sole end of existence instead of rest and so of better service, will no doubt account for much of the indifference of children to the Sunday-school work. We cannot expect children to cherish thoughts which are wholly avoided in the homes, or to be drawn to religious teaching of any kind in the midst of exciting diversions. Yet we must not close our eyes to some of the possible causes of ignorance and neglect of the Bible in the Sunday school itself. It has taken upon itself the great work of religious instruction, and is in many American communities the only means by which such instruction is had. It therefore is responsible in a certain way for some of the conditions under which its work is carried on. Recognizing as we must the great power for good in the support which the Church—local and general—gives to the Sunday school, and especially in the help of so many volunteer workers eager to do something which will tell for righteousness, what shall we say of the unhappy and in some respects deterrent conditions under which its work is carried on? In the first place, under present conditions, it must be carried on generally without expense, and, there-

fore, must depend upon teachers—many of whom are young and inexperienced, and most of whom are without any professional training as teachers.

I can well understand how we may overvalue training and experience in our estimate of a Sunday-school teacher, and undervalue personal character and a desire to serve without thought of remuneration. But given the conditions of the public schools—a growing tendency which I deplore—the Sunday-school teacher must in some way meet their requirements. What will a bright boy who is well taught in the daily school naturally do when he comes into the presence of a teacher in the Sunday school who doesn't know anything of the art of teaching, and who knows but little more about the subject taught than he does? He will do exactly what he does in the daily school when an inefficient substitute is put over him; he becomes indifferent and disorderly. This indifference or disorder is of small moment occurring in connection with a geography lesson, but when it occurs in connection with religious instruction, again I say it is a positive harm to him. How much indifference to and dislike of Bible study is occasioned by inefficient teaching it is difficult to determine, but I cannot help believing that it is great. Again, when the instruction of the Sunday school is crowded into a brief half hour at the close of a fatiguing forenoon service given to children who are irregular in attendance, and who make little or no preparation by way of study, much cannot be expected. So little would hardly count in the daily school.

In the absence of skilled teachers the managers of the Sunday schools feel obliged to put into the hands of teachers and pupils lesson papers of various kinds which many educators pronounce as hindrances rather than helps to clear and independent thinking. Most of these lesson papers are confusing in their complexity, unpedagogical in their arrangement, and, as I believe, wholly perversive of the true ends of religious instruction.

And, lastly, the prevailing plans of Sunday-school organization are such that some of the teachers are charged with implied obligations far greater than are those of the public-

school teachers, and are obliged to assume relations to their pupils as unnatural as they are trying.

I have dwelt but briefly upon some of the objectionable features of the Sunday school, partly because I wish to avoid all appearance of carping criticism, which is all too common, and partly to suggest a few possible ways of improvement in respect to the means and methods of Bible instruction. What I shall say of course will be suggestions only on broad lines of organization, altho they are convictions based, as I believe, upon sound principles of education.

I have referred particularly to Bible instruction, because I believe not only that the Bible should form the basis of Sunday-school work, but that it should be the only text-book used with at least all the lower and middle grades of pupils. I cannot go into details in explanation of my reasons for discarding all lesson papers, especially for the use of pupils, but merely say that many of them encourage a method of instruction long since discarded by the best teachers, while none of them can be said to be so attractive and useful for study as the Bible itself, taught by a good teacher. I can well recall the time when I was promoted from a catechetical lesson book to the Bible. The new-found joy of using the hitherto forbidden Book as a source of information, and of reading events and precepts in their connection without the disturbing jog of a questioner, all gave an added dignity and interest to the study which poor teachers did not wholly destroy, in spite of their ingenious efforts to do so.

This use of the Bible does not leave out of account collections or selections of Bible texts which makes the story or lesson stand out apart from extraneous matter—such, for example, as the compilations made by Dr. Schaeffer and by Dr. Moulton. But such use, I believe, ought not to include revisions or free translations, which are by their authors supposed to be better adapted to the children than the ordinary text, or to be written in a finer literary style. Such, for example, as the translation of the New Testament made by an Episcopal clergyman some years ago in the interest, as he said, of "a sweetly-flowing diction." Thus, he would have

us read: "Salt is salutary; but if the salt has become vapid, how can it be restored?" showing clearly that translations as well as salt may become vapid. And this vapidity is not wholly wanting, at least to some minds, in the so-called Twentieth Century New Testament in which we learn by the same teaching: "Yes, salt is a good thing; but should salt lose its strength, what will you use to restore it"; sounding to my ears more like a modern advertisement than a solemn utterance or appeal to the spirit.

Keeping now in mind the Bible as a book of religion as well as of history, literature, and morals, we may ask how best it may be taught. In general there may be said to be two methods of instruction, one by an appeal to the passive powers and the other by an appeal to the active powers. By the former method the pupils are supposed to simply receive thoughtfully and feelingly what is told or read; by the latter method the pupils reproduce in answer to questions what has been told them or what they have read. Ordinarily instruction by an appeal to the active powers is to be preferred to what may be called the lecture method of instruction, yet in a choice of methods we must keep constantly in mind the purpose and conditions of the instruction. The purpose of Bible instruction is primarily to arouse in children an interest in and love for the Bible, so that they shall be led to use it as a means of moral and spiritual elevation. If the circumstances permitted a Sunday school to have the right kind of instructor for every five or six pupils the present method of classification might serve a good purpose, but even then there might be a kind of questioning which, as I shall try to show later, would be harmful to the pupils. The alternative then is to have our groups larger and our instructors fewer, it being understood that each instructor shall be a spiritual-minded person and an enthusiastic lover of children, shall know the Bible thoroly and be skilled in imparting what he knows of it so as to make it attractive and useful to the pupils. The subjects presented should correspond as closely as possible to the age and capacity of the pupils. The following divisions of pupils may be made on a

psychological basis—of course with the understanding that the division by ages is only approximate:

(1) From four to seven years of age inclusive—or the age of myth and story.

(2) From eight to eleven years of age inclusive—or the age of biography and history.

(3) From twelve to fifteen years of age inclusive—or the age of literature and morals.

(4) From sixteen to twenty-five years of age inclusive—or the age of religion and ethics.

The subjects presented should be carefully selected, and so arranged in each group that there shall not be a repetition of topics in succeeding years. In such an arrangement as this there can be little or no so-called recitation work, in the lesson period, especially in the second and third divisions. The pupils' part in these exercises will be mainly that of a listener, while the leader assumes more the part of talker or lecturer than that of teacher. The purpose of substituting large divisions for small ones with a portion of the pupils is to avoid some of the present serious defects of class teaching, to lay a good foundation for more interior religious instruction, and to create in the children an interest in and love for the Bible. If these high purposes are to any degree attained, the pupils will be so inspired with a desire to read the text of the Bible included in the subjects talked about, that they will during the following week voluntarily read it, even with no encouragement from the parents. It is hoped, however, that the scheme for a reformed Sunday school may include work with parents as well as children, so that there will be established in every home regular Bible reading.

As a matter of course the exercises of each division will be conducted in a manner suited to the needs of the pupils. The exercises of the first or lowest division will naturally assume many features of the kindergarten—while the history of religion and doctrinal study will occupy much of the time of the highest division. But in all divisions it is assumed that the Bible shall be the basis of instruction.

The chief difficulty will be to reach the needs of the second and third divisions or the children between the ages of eight and fifteen inclusive. Over each of these divisions should be placed an instructor who is reverent-minded, who thoroly knows the Bible, who is an adept story-teller and who can present points with clearness and force—with at least as great a degree of clearness and force as is exhibited in the pulpit. Ordinarily a person for this service will have to be a trained and paid teacher. If the clergyman is not needed to lead the fourth division he will be ready and glad to take either of the other two divisions, provided of course his theological school has given him the needed training for such service.

To supplement the talk or lecture and to take the place in some degree of the oral class recitation there should be times provided, as often as once a month, for the two or three higher groups of pupils to write answers to review questions. One of the questions might refer to the home reading, and one to verses memorized. For helpers in this part of the work the superintendent and division leaders may have the assistance of volunteer workers, who will examine and mark the papers and perform such other service as may be needed to be done. These helpers will need to be constant attendants of the division exercises, so as to know how to mark the papers.

Thus far I have spoken only of instruction which has to do with the lettter of the Bible and its more general interpretations—instruction which may be called literary. There comes a time in the Bible reading and study when the child should be led to think somewhat of its religious character and to connect the teachings of the Bible with his own life and needs. This, doubtless, is a part of Sunday-school instruction which has been objected to as "too pious," an objection which is likely to be well grounded unless the utmost care is taken. In carrying on this instruction as it has been done in classes the teacher assumes an unnatural position before the class and forces an unnatural position upon the members, leading them to sullen silence or demoralizing disorder, or, what is worse, bursts of pious priggish-

ness, which is wholly unnatural to the normal-minded child. I am speaking now particularly of children from twelve to fifteen years of age, when religious emotions begin to be awakened. For these pupils direct religious instruction in which personal responses are expected should never be given in large divisions or even in classes of three or four members. A child naturally and properly refuses to lay bare before other children his inner thoughts and feelings. Mothers and fathers know that when they wish to talk seriously to a child, or when they desire to give any instruction in which an individual response is sought, it must be done with that child alone, if the highest success is to be reached. A talk of this kind with one or two other children present would, perhaps, be worse than useless. The same is true of religious instruction in which the application of the lesson is made to personal, daily living, or in which inner religious experiences are treated. To make more clear what I mean, I wish to refer to two incidents which recently came to my knowledge.

The first instance was that of a mother who found by repeated trials that her two children, twelve and thirteen years of age, could freely talk with her about the Bible when together, and so she decided to spend an hour each Sunday afternoon in reading a short service and in talking over the Sunday-school lesson. She found with delight that the children entered heartily into the exercises, receiving and giving in a free and happy way. A sphere of love and peace seemed to pervade the entire hour, which was apparently as grateful to the children as to the mother. One Sunday there was a visitor of about the same age as the daughter, who was invited to join the circle. She did so, and the difference of feeling and action was most marked. Instead of freedom of expression and loving interest there were constraint and occasional breaks of frivolity. In talking over the matter with her daughter afterwards, the latter was led to give as a reason for the bad behavior that the visitor was making fun to herself of an exercise to which she was unaccustomed, and that the others did not want to appear too pious before her. Here we have a marked instance of a common tendency of children

to hide their better feelings in the presence of others—a tendency to which nature herself may resort for the protection of what is most sacred to the child.

The other instance referred to was that of the experience of a Sunday-school teacher with a class of boys from twelve to fourteen years of age, who had greatly troubled the teachers for some time. Disorder and confusion had prevailed with every teacher, no teacher being willing to continue for any length of time. The person alluded to was a trained and experienced teacher, and it was confidently hoped that he could control them. This he did, but he was compelled to be severe in his attitude toward them, stopping by stern command any disposition on the part of members of the class to disorder or diversion of interest. He left his class each Sunday in an unhappy frame of mind and approached each new recitation with an indefinable dread. He knew that this condition of affairs was wrong, for he realized fully that an orderly presentation of Bible lessons would be attended by exalted rather than by depressed feelings. On one Sunday only three members of the class were present, and he was surprised to find how much more attentive and interested they were than they had been before. Moreover, the boys seemed to be more free in their responses and expressions of opinion. The teacher was encouraged to believe that there was a change for the better, but when a larger number of members were present there was the same restraint and tendency to disorder. The experience with the smaller number was repeated on several occasions, and on one Sunday it was repeated in such a way as to leave no doubt in the teacher's mind as to the cause of the difficulty. It was the occasion of a very stormy day when only one boy was present—the one who had given the most trouble in the class. On this day the teacher was much surprised to find how thoughtful and interested the boy was in the subject of the lesson. He gave freely of his understanding of the subject, and asked pertinent and thoughtful questions. In short his entire attitude toward the Bible lesson was changed. It is needless to say that the teacher's feelings upon that day were quite

different from what they had been before, and that the difference in the quality of work done was quite as great.

Such instances as these could, I believe, be paralleled in the experience of every parent and Sunday-school teacher, and they illustrate a principle which should be observed in the personal religious instruction of children of a certain age and temperament. That is, for a part of the religious instruction of this class of children there should be a teacher assigned for every one or two pupils. How this can be carried out will depend upon circumstances—the chief of which being the extent and degree of genuine spirituality in which the members of the church are. Be it remembered that for this work a trained teacher is not needed. Any intelligent Christian man or woman who can enter into the states of a child to such an extent as to win his love and confidence will be able to meet his spiritual needs at this most critical time. The teacher here will do what any intelligent, reverent-minded parent would do in simply following the indications of what the child most desires to know of the Bible story as applied to his thought and life. In this way the present quite prevalent mistake of anticipating the child's difficulties will be avoided, and also of forcing upon him forms of interpretation and belief which he does not and cannot understand. It is hoped that in this new and untried organization of the Sunday school the individual lessons will be largely a voluntary matter on the part of the child, and that he will even have some voice in the selection of a teacher. Sometimes let us hope that the child's own father or mother will be selected.

If the objection to a plan of individual teaching is urged upon the ground that it would be difficult to get enough teachers, let the comparative simplicity of the work be made known. Let it be understood also that this work is needed to be done quite as much for the sake of the church members as for that of the children. We complain of the spiritual degeneracy of our church members, and think that we are in some way raising their spirituality by getting them to solicit money for foreign missions or to assist in getting up a church

supper, when it is contact with the moral and spiritual lives of the boys and girls which they most need. At some time in the future the great missionary need of spiritual service in our own churches and neighborhoods will be recognized—and a beginning may well be made with the children.

As I come to the limit of my allotted time I realize the weakness of my atttempt to assist in solving this difficult question, both in what I have tried to say and in what I have omitted. I intended to speak of the great value to children of learning by heart certain portions of the Bible and of the way it could best be done. I intended also to speak of the character of the general exercise in the Sunday school and of our duty to make it so attractive with its music and stereopticon pictures that no boy or girl would wish to miss it. The time and duration of the Sunday-school session I had also hoped to discuss, and show that it should have the prominent place it deserves. And, finally, I wished to speak of the multitudinous leagues, clubs, and societies for the young that have arisen within a few years, of the help they could be to the Sunday school, and of the possible danger of so scattering the forces of the Church that the true work of the Sunday school may be hindered rather than helped.

Some of these questions may not bear directly upon the subject you asked me to discuss, but they all belong to the larger subject of education itself, whose inquiries should be as varied and deep as are the needs of the child it hopes to serve.

John T. Prince

West Newton, Mass.

X

SOME EDUCATORS I HAVE KNOWN (III)

THE NEW ENGLANDERS

Among the educators I have known, the New England men as a group always stir pleasant memories. They are usually more cautious at first in expressing their opinions than any other class, and they are more inclined to turn around and look behind before speaking out in meeting. There are exceptions, perhaps the most notable Dr. A. E. Winship, who always reminds me of a breezy Westerner from Oregon, or the State of Washington, where—"*it is all wool, and a yard wide.*" Whenever Dr. Winship speaks, he says something, and it comes from the heart and in no "mince-meat" fashion. He can be alarmingly frank.

In solidity, dignity, deliberation, Dr. W. A. Mowry is the exact opposite of Dr. Winship. He is at once one of the most genial men and one of the best-informed ones in this country. His information is encyclopedic, and every bit of it is burnished and ready for instant use. He has a deep vein of refined humor which just bubbles over. While he has written many valuable articles and books, I do wish he would write a volume on the quaint and interesting characters he has known in New England. He has a world of information and anecdotes that are side-splitting, and better than any tonic ever made—real medicine for the soul.

When I read of the death of W. E. Sheldon of Boston I was deeply grieved. In connection with the National Educational Association, I had learned to know him well. His sturdy figure, dark full eyes, broad and high forehead, and his firm grasp of the hand, "How are you, James, and how is Kansas City and Missouri?" are memories too strong ever to be forgotten. His voice reached out far—always heard and felt. Many a time have I sat with him and that noble man

Dr. Calkins, late at night, and talked over the financial outlook of the National Educational Association, and what was best to do under existing conditions. There are two sides to the New England men, an outside one that is patent to everybody, and an inside which is known to the inner circle of friends, and this is the more charming side and the one that reveals the real man as he is.

The New England men wear well, and as a class they are men of culture and refinement, and entertain well-grounded opinions of their own section of the country, and of the men and women it has produced. I have imagined that society began to crystallize earlier in New England than elsewhere in the United States, and somewhat of this feeling manifests itself among some of the school men that I have met, while others have been singularly free from this self-consciousness. John Hancock, as Governor of Massachusetts, had no little notions of state etiquette when the Father of his country arrived at Boston, and the question narrowed itself down to a very definite issue of States Rights, or the National Government, and whether the President should call on the Governor or the Governor on the President—provided there was no indisposition on either side that would endanger health. It takes longer for a new educational idea to get a foothold in New England than in Iowa, for instance, but when once properly planted, it becomes indigenous, and is firmly rooted in the affections of the people. Yet New England is not so conservative as Prussia, for instance, and it is well that it is so. We need an educational balance wheel in the United States, and New England furnishes one. At times there may be an upheaval, as the one brought about by President Eliot a few years ago, when he was arguing for the enrichment of the grammar-school course, and, notwithstanding the weight of his intellect and influence he carried into the discussion, the results have not been more than very thin, when compared to good New Hampshire cream. The outcome may yet be that pupils at ten or eleven will be taken out of the grammar school and placed in special fitting schools for college. But, as a mat-

ter of fact, the enrichment scheme has almost dropped out of sight. Practice did not accord with theory.

Another notable example was when Colonel Parker, at Quincy, tore up the earth and raised a howl that shook creation for a time, backed by a gifted descendant of a noble ancestry, yet it had no appreciable effect on the calm serenity of the Massachusetts school teachers. They looked, smiled, and went on with their work as usual. When he came to Chicago, he shook the West. We listened; clapped our hands, and said: "Turn him loose and let us see what capers he will cut, if he keeps stirring up things, which is his mission on earth." He raised a wind under more sail than it was possible to put up in Massachusetts. The effect as to amount is a matter of dispute, yet the over-emphasis and the contortions of features and the vast expansion of facts that the colonel employed, had a good effect on the teaching force of a considerable area of the United States. The New Englanders may get their heads turned a bit, and only on rare occasions. However, they soon right themselves again and go calmly on as usual.

Some of the very brightest school people in all the eastern section of the country are never heard from. One reads of the school-masters' clubs, always spelled in the biggest letters, and of the papers read and of the discussions, but the thousands of bright women who do nearly all of teaching, and who get up the best methods of measuring and estimating the teachers' work, are always retired, counted out, or set aside. None of the brethren have ever told me how it came about. I never attended one of these meetings, and I have wondered if something was served that the women would not relish. My inquiries never provoked an answer, except "It is not the custom." My efforts reminded me of an answer a Chinaman made to an American, who asked why a pagoda was always built fourteen stories high. The reply was, "That is the way to build a pagoda." It often happens that one must be satisfied with a small piece of information.

JAMES H. CANFIELD

The educational favorite of the teachers in Kansas and Missouri is James H. Canfield. We like him because the

smallest child or octogenarian could come to him at any time and at any place and be kindly received. We like him because he is one of the best and most inspiring teachers that ever came before a class. We like him because he is fearless, honest, and a hater of all shows and make-believes. Above all these, we like him because he is the Stephen A. Douglas of platform educational oratory. He knew the people of the West, and he was one of them. About the time I came to Kansas City he went to Lawrence, and, living only thirty-eight miles apart, we saw a great deal of each other—a friendship began then and has grown and ripened with the years.

It does me good to go into his office and chat with him on history, political economy, sociology, international law, even on the law of evidence or of contracts, or issues of the day. The tender spot in his bosom is large and warm. When he left Lawrence it was like plucking out his life by the roots. With the tears in his eyes, he said, "Jim, so many have been so kind to me"; those few words told it all. There was a look too deep for utterance which floated for a moment over the depths of the unspoken. I knew and he knew, and that was enough. We felt his removal as a positive loss, but when I see him now I feel reconciled. No other can fill so large a place in the hearts of the teachers of Kansas and Missouri as did James H. Canfield. We appreciated his splendid ability, his high purposes, and his genuine manhood—a real thing of thought, feeling, flesh, and blood. A man, and a true one—but a man always. No live men can come into the West and live two decades without expanding in soul and spirit.

I know that it is hard to do justice to one with whom one has stood shoulder to shoulder for twoscore years, knee to knee and foot to foot, and not feel a glow of enthusiasm. It is never unmanly to love a friend.

HENRY SABIN

Iowa, one of the best and most progressive States in the Union, has produced no grander man than Henry Sabin. He has made a deep impression upon the educational system of Iowa, as well as upon the teaching force. The ideal that the

Iowa teachers endeavor to realize is a high one, and they believe that all engaged in teaching the young should come up to that standard. At different times I have mingled with the Iowa teachers, and my observation is that fewer of the men teachers of that State smoke or chew tobacco than any other State in proportion to the total number employed in school work. Iowa people, as well as the Missourians, have a sort of unwritten law that preachers of the Gospel and school teachers should neither use tobacco nor drink any intoxicants. Wherever or whenever Henry Sabin appeared before the teachers or the citizens of Iowa, he carried with him a high, serious atmossphere in which he continually dwelt. With him life and duty have always been matters of deepest import, and the training of children for eternity the holiest mission imposed upon man. Deeply imbued from the first with the love of our country and its need of true, God-fearing men and women as the best type in whose hearts freedom should dwell, and its sacred fire kept burning, as it did with the vestal virgins in the palmiest days of Rome—to this lofty height Henry Sabin aspired to lead his people. He always sought to develop and bring into activity the very noblest thoughts and actions that could move the people of his State. No other one in America ever pressed more closely to his heart that lofty poem, *The Landing of the Pilgrims*, by Mrs. Hemans, than Henry Sabin. His whole nature was keyed up to this high feeling, and he aroused all the teachers to a like attitude. While his heart and his feelings carried him into the realm of the grandest truths in perspective, yet he never forgot to look before, behind, and all around, and to see the trend of events and situations, just as they were in each particular locality, no difference whether handling "independent school districts" or some other phase of local interest.

"Hawk-eye" was never more applicable to another of Iowa's sons than to Henry Sabin. All vision seemed to be centered in his clear perception of the situation, and he focused it most vividly on the literary work of the schools of the State. Literature with him was not only a "criticism of life," but it was "life itself" in sublimation.

Some years ago, coming from the National Educational Association, Henry and I were seated together, and he was feeling somewhat depressed over the turn affairs had taken in Iowa, and I endeavored to console him by telling him it was not a very serious affair after all, and that we create largely our own world and then, looking him straight in the eyes, I said: "Henry, you don't laugh enough—laugh more, you will feel better, and the boys in Iowa will feel better, too! The darkest hour is just before daylight, but it is only sixty minutes long!" We laughed, and the next time we met, he was cheerful and happy.

Keenly sensitive, he was made of the same noble stuff, the great elements of true manhood, that characterized Oliver Cromwell and "Stonewall" Jackson. A truer, purer man than Henry Sabin never marked his footprints on the soil of the Mississippi Valley. He is an honest, sincere man of high and noble purposes.

NATHAN C. SCHAEFFER

"There were giants in those days" can be applied to the present State Superintendent of Pennsylvania. A more congenial, whole-souled, great big-hearted, man never decided to qualify himself for teaching than the subject of this sketch. His mind is strong, vigorous, penetrating, and analytic. His powers are keen and practiced, and his range of vision wide and critical. There is no other educator in America who can take a topic, apparently an insignificant one at that, and set it in so many positions and view it so intelligently from every point of vision as Nathan C. Schaeffer. If he goes about with a lighted torch in one hand to burn up things, he carries in the other hammer and nails to build something better than what he destroys. He is a builder of character, and of the most solid material. As a thinker I regard him as one of the safest and sanest along educational lines among us, and he understands how to pick out the wheat from the chaff and straw in all kinds of devices and short cuts, either in studies or methods of instruction. His work as an educator has been focused on one great practical lesson—to teach teachers and

pupils how to think intelligently, clearly, and to the end of a subject, and then how to express the thoughts reached in the plainest possible language. His mind works logically upon the data given, and he does not understand why other minds, if conditions are complied with, do not work in the same way. His faith in humanity is unbounded, and all that is required to enable children to reason correctly is that the conditions for accurate observation be complied with, the data correctly apprehended and interpreted, and the conclusions will logically follow. His philosophy reaches beyond the mere materialistic view of mind and passes into the higher realm of spiritual existence. This gives a healthier tone to his thinking, far above the mere plane of matter, force and conservation of energy as first cause. These to him are mere manifestations of power beyond and above them. It is always a pleasure to sit and talk with Dr. Schaeffer. He combines, in a remarkable degree, the good talker and an excellent listener. As a platform speaker his manner is pleasing, his voice well intonated, his choice of words natural and easy, and they never obscure the thought—his manner dignified, and often his climaxes are beautifully eloquent. The Missourians, as well as the Pennsylvanians, like him because of his rugged honesty and his high intellectual and spiritual qualities. May he remain long at the head of the Pennsylvania school system is the sincere wish of the writer.

WILLIAM H. PAYNE

A few years ago I spent a week with Dr. Payne at Oxford, Miss. We were there doing institute work with the teachers of Mississippi. Prior to that time I had read the books he had written as well as the ones he had translated and edited, and in 1891 I had visited the Normal School at Nashville, and heard him conduct a recitation. From his writings I had formed the opinion that he was one of the clearest and safest educational thinkers among us, and that he was a safe guide in estimating at its real value each branch of study, no difference in what kind of an institution it was pursued. He balanced departments well, and he knew about how much

knowledge and culture each would contribute. At Oxford I came in close contact with another side of his nature,—the emotional and sympathetic,—and then I saw clearly the heart that beat beneath a modest and retiring exterior.

In his lectures at Oxford he approached the psychology of the subject from the standpoint of motives, and, in my opinion, there he is without an equal in the treatment of this subject in the United States. His language always carried his thoughts well, and in no instance were the words bigger than the thoughts. I never heard anyone put his ideas in clearer or simpler language, and when he carried a point one felt that a pin could be stuck there that ought to stand forever. Delightful as his talks were, his private conversations were more so. He had entered fully into the feelings, purposes, and thoughts of the Southern people, and he knew how to appreciate their best qualities intellectually, morally, religiously, and socially, and they loved him on account of his gentleness and true nobility of character.

During that one week, altho his physical strength was at a low ebb, his cheerfulness reminded me of the light that flashed forth so often in the letters of the historian John Richard Green. There in the Southland I ever think of him, whether talking to those earnest Southerners, who hung upon every word that he uttered, or whether talking or sitting in the shade of the Southern oaks, magnolias, and pines, as one of the most charming and best and variedly furnished minds I ever held communion with. One ever felt at home in his presence, and if heaven is the home of the just made perfect, he, judged by my standard, is one of the most perfect men I ever knew. He is far nobler than the present generation gives him credit for. He was never cut out for a "drum and trumpet educator," but rather as one who had a great work to do, and he is doing it well.

ROBERT B. FULTON

The University of Mississippi has always had able men in its faculty—men of the highest intellectual ability and reputation for solidity of attainments, scarcely, if at all, inferior

to the most scholarly men found in any section of our country. Such men as Bledsoe, Barnard, Hilgard, and Lamar would have added luster to any institution of learning in the land, and, after all, it is the man or the men that make a great university, not the lusty, able-bodied beggars.

Three or four visits to the University of Mississippi, where I have met the present chancellor and the members of the faculty as well as the leading educators of that State and the students of the university, afforded excellent opportunities to observe the work that the State was doing from the rural schools upward thru the post-graduate work in the university. For years Chancellor Fulton has been connected with the University of Mississippi first as a student, later as a professor of mathematics and astronomy, and, since the retirement of Chancellor Garland, he has been at the head of the university.

Chancellor Fulton is a man of the people. He mingles freely with all classes. His handshake is hearty, generous, and strong. He looks one in the eye with a benignant smile. He is a quiet, energetic man, exceedingly strong on the administrative side, but holds back a large amount of reserve power. He is not a voluble conversationalist or a ranting public speaker. His words carry due weight with them, and they land on the right spot in one's mind. He is one of the best-balanced university men in this country. He combines in his personality the man of thought and the man of action. He knows how to go about the work before him. He plans well and carefully, and he keeps in mind all the details of the work of the university. He looks far ahead, but not so far as to be out of sight of what is round about him.

Quiet and modest, except among those who know him, strangers will underestimate his real worth. His knowledge is extensive and exact, and he knows what he does know and what he does not know.

On the social side he is the typical Southern gentleman—minus laudatory phrases and compliments. Comparatively a young man, yet he is destined to take high rank in the East and West, and as an educator, as he has already done in the

South, where he is so highly respected and beloved by all who know him.

F. LOUIS SOLDAN

It must have been in 1870 when I first became acquainted with Superintendent Soldan and learned thru him, or some other person, of the group of men and women in St. Louis engaged in the study of philosophy, the theory of the state, and literature and art as interpreting the highest expressions of spirit and form. It was also about this time that an editorial in the New York *Tribune* made the somewhat startling announcement that a small coterie of men and women in St. Louis were the leaders as well as the highest exponents of philosophical thought in America. Of this St. Louis school, Dr. Harris, H. C. Brockmeyer, F. Louis Soldan, William M. Bryant, and Frank A. Fitzpatrick are the ones that I knew most intimately. Mr. Fitzpatrick was very much younger than the others, but he imbibed much of the spirit and is properly classed with them.

I wish to bring forward a matter here that, as an historic statement, is relatively an important factor in regard to the Herbartian doctrine of interest, that certainly is not generally known. Superintendent Soldan was, so far as I now know, the original Herbartian follower in this country. Probably more than thirty years ago, Miss Anna C. Brackett, principal of the Normal School in St. Louis, had translated Rosenkranz's *Principle of education* for the *Journal of Speculative philosophy*, and this translation had also been published separately, and was read and studied extensively by a large circle of school men in Missouri and adjoining States. At our State Teachers' Associations the discussions frequently took in a wide range of thought as well as very animated expressions of opinion. With such men as Drs. Harris, Laws, Superintendent Soldan, Presidents Baldwin, Osborne, Norton, Professors Fisher, Swallow, Fleet, Smith, *et al.*, the discussions were of a high order. Against Rosenkranz, Superintendent Soldan placed Herbart, and he advocated Herbart's doctrine. Some years later a younger set of men began exploiting Herbart's doctrines in the United States, and perhaps Superintendent

Soldan understands better what Herbart really meant than any other student of educational literature in this country. A native of Germany, and educated in the German schools, born and reared in their very atmosphere, the German language his mother tongue, he is naturally better qualified to enter into the spirit of what the great educator taught than those who had to learn German later in life, and then interpret German thought in terms of English thinking. I speak of this simply as matter of fact that was well known to many of the teachers of Missouri before the great wave had swept over this country and Great Britain, heralding the doctrines of Herbart.

I remember very distinctly, at the Madison meeting, of walking out with Superintendent Soldan one night, in order that we might talk over alone the position held by Herbart on moral education. Mr. Soldan and I both knew Dr. Harris' position on the will, and that he regarded Herbart a bit rickerty on this subject, and that he would doubtless attack Superintendent Soldan's position if he placed himself squarely on Herbart's platform. The upshot of our interview was that Dr. Harris might, or might not, oppose, and, if he did, it would be an argument on the merits of the question, and we believed it to be a good thing to go to the root of the matter.

A few years later, when Dr. De Garmo and Dr. Harris crossed swords on this very point, Dr. Harris had been over the ground years before, and he had the whole thing mapped out, and he knew every footpath as well as all the main thorofares of this region.

Before we became so refined in Missouri we used to discuss such questions in our State Teachers' Associations, along with the common dirt problems of everyday life.

Superintendent Soldan always wants to know, you know, and in an argument he is about as tough a customer to encounter as there is among the educational debaters in America. He is a scholarly man, a wide and thoughtful reader, a discriminating and logical reasoner, and a gentleman of the highest type. When he began to do his own thinking I know not. He was just as independent when I first knew him as he

is now. Taking him all in all, I regard him as one of the ablest and most successful school men in our country. He stands in the very foremost rank of the twentieth-century American educators. Such a man belongs to the nation.

BURKE A. HINSDALE

When Dr. Hinsdale was elected to the superintendency of the Cleveland schools, he was thrown at once into a new educational atmosphere, and some of the older superintendents rather looked upon his advent into their circle as something out of the usual order. Upon inquiry as to his past history, I was informed that he was known chiefly as the man who had molded the thoughts and sentiments of James A. Garfield and had done more in shaping his line of thinking than all other educational influences. I was further told that he was a minister, a thinker of some note among his own church people, and had been for years connected with a small college in the Western Reserve, and that he had succeeded James A. Garfield as president of this college.

If I remember correctly, I first saw Dr. Hinsdale at Madison in 1884. Some three or four years later I became acquainted with him—never intimately in the usual sense of the word, but I knew him tolerably well. He was a person who grew on one by acquaintance, and the more I knew of his mind and its ideals and his persistent power of study and work, the more I admired him. His mind was essentially analytic and searching, and yet he was also endowed with constructive ability of a high order. From the first he always reminded me of Carlyle's cynical thrust at Mill, "a logic chopper," but having a decided advantage over Mill in this—that he always used just enough words to make his meaning clear and no more. However complex an issue was, he would divide and subdivide it until he had put each skein to itself, and after treating each he would bind all together in a summary that was so compactly arranged that further discussion appeared useless. If confusion had arisen, or extraneous matter been injected into a discussion, the first thing he did was to clear all rubbish out of his way and then toss it aside. He always dealt with the case

in hand and in its bearings on related questions. Whether he spoke or wrote, he was always logical, often philosophical, and in the highest degree argumentative. He strove to get at the essence of things, and in order to do so, he would go back to the beginning, and, starting from a point there, he would come on down to the present. When a new proposition was first presented and came clearly into the field of thought and action, his method was that of beginning at its genesis and tracing it out historically.

He was, therefore, a prompt, vigorous, careful, logical, historical thinker—no halfway work satisfied him. During the later years of his life we corresponded considerably, and at the sessions of the various educational meetings we had many conversations. He was occupied so continuously with writing that he had little time for general or special reading outside of the literary work upon which he was engaged. This he regretted, but he did not see any way under the present condition of his health to avoid it. The very last time I had a long talk with him was at the Charleston meeting in 1900, and that was, too, the last time we met.

Removed only a short distance from Ohio, and knowing personally some of her leading educators during the last fifteen or eighteen years past, I have often thought and perhaps have often expressed myself, that Ohio and Massachusetts had contributed more talent to the cause of education than any other half-dozen States in the Uuion. It certainly was from these two States chiefly that the greatest number of strong men intellectually came in the earlier history of the National Educational Association. Such men as Rickoff, Andrews, Tappan, Eaton, Hancock, Hinsdale, and White constitute a galaxy that for solid and varied attainments would be hard to parallel in any other section of the country, and these were all actors when I first came to the edge of the educational stage, and all of whom have passed away except General Eaton. As the leaders pass, one by one, others come to take their places. Some future Hinsdale will yet write of the influence of Ohio and Ohioans on the great educational system of the central West.

FRANK A. FITZPATRICK

Frank A. Fitzpatrick is one of the best-informed men that I ever met, and it was a great loss to the profession of education, particularly in the department of city schools, when he retired permanently. As I have previously mentioned, he and Mr. McNeill are the best and most skillful school critics that I have ever known when it comes to passing judgment on the kind of work that a teacher is doing in graded school work. I never saw Mr. Fitzpatrick teach, but I should take him to be at his best either in history or economics. He works at school propositions in one way and Mr. McNeill in another, but both virtually arrive at the same conclusions in regard to a teacher's skill or ability in presenting subject matter or in getting a class to work it over and assimilate it. Mr. McNeill's vision was narrower and more searching and it covered the facts more thoroly, while Mr. Fitzpatrick's vision was more comprehensive and projected itself farther into the final resultant. Mr. Fitzpatrick was a firm believer in letting a self-opinionated teacher or principal struggle a while, and out of this rough field of experience the teacher would emerge with some definite notions that might be turned to a valuable purpose. Mr. McNeill never believed in "lost motion." When the machinery of a schoolroom was not running smoothly, he would lose no time in adjusting it. He was a quick, ready helper,—the other the patient waiter who believed in experience,—falling and continually rising as the safest road to success. Of course there is much to be said on both sides. Superintendent Fitzpatrick can go thru a system of schools in any city of this country and, from what he observes and picks up in hasty conversation here and there, give the essential features the educational authorities are trying to realize in that system. He seizes quickly upon every salient feature, and he can tell whether the essentials are emphasized or the relatively unimportant. He has a short, incisive way of expressing a situation, but not without first presenting every phase from which a situation or condition can possibly be viewed. In looking over a system of schools, he

always keeps in mind the teaching force, the different groups of citizens who are personally or indirectly interested in the schools, the tax-paying power of the citizens, those who would support the schools loyally, the indifferent ones, and then, lastly the fault-finders, and the positively hostile who fight openly and covertly. The board of education, according to his theory, simply stood forth as the expression of the wants of the people, usually fair-minded men who wished to perform their duties faithfully and intelligently. With these the superintendent had to work in order to keep them at times from doing ill-advised things. He, Superintendent Gove, and myself in the Council have occupied an attitude, in the main, different from that held by the large majority of superintendents in this country. We were always in the minority against those who wanted "to boss the whole thing" and were always clamorous for more power.

Mr. Fitzpatrick is one of the best and most interesting conversationalists I have ever known. He is equally at home when engaged in conversation with a United States senator, a judge of the supreme court, a railroad magnate, or the manager of a large manufacturing plant. His versatility of information and his fertility of resources are astonishing. He possesses one of the best-cultivated and best-trained minds that I am acquainted with. In addition to this, he is an omnivorous reader—one that takes hold of the solid and the highest abstract speculations yet reached by the human intellect, its most recondite and far-off investigations, and from these lofty heights, he easily descends to what the newsboys and boot-blacks think of life—not stopping here, he knows what they read and how they look upon life and the problems it presents. He has looked into this complex—called society—and seen its movements and tabulated them as forces to be directed into higher and better forms of activity.

As much as I admire the great qualities of mind and heart that Superintendent Fitzpatrick possesses in so full a measure, there are other qualities which endear him to me. I lived for years in the most intimate relationship with him. Had we both slept upon the same pillow, our love and friendship could

not have been purer, truer, or more unselfish. The very inmost secrets of my soul I made known to him. He, as I, despises that man who would not be honest with himself.

Those who look upon him as a "book agent," do not know the man, his independent thought, his versatile attainments, his dangerous logic, his winged words, or his dauntless spirit. Of him I can truly say:

> "There is one great society alone on earth;
> The noble living and the noble dead."

I. C. M'NEILL

For nearly twenty years I was closely and intimately associated with President McNeill. The Kansas State Teachers' Association in 1877, if I remember correctly, was held at Atchison, and it was during that session that he and I became acquainted. He was a very young man then, recently from the State of New York, and had come West to grow up with the country by sticking himself down at Greeley, a small town in Anderson County, Kansas. The Atchison folks had decided that the proper thing to do would be to give the teachers a drive over the hills and hollows of that thriving little town and let us look at the prospect. It so happened that Mr. McNeill and I were put in charge of an estimable lady, the principal of the Young Ladies' Seminary, and she enlightened us in a benignant and lively manner, on all that had been, was, or would be, in Atchison for the next century. Somehow in the shaking of the human dice-box, we were thrown out or in together. We talked a little edgewise, but I liked the young man, and in a year, perhaps the same summer, a vacancy occurred in one of our ward schools, and in conversation with Mr. W. H. V. Raymond I spoke of young McNeill, who was an instructor in an institute in Kansas. Mr. Raymond was going to visit that institute, and was to report what kind of a teacher Mr. McNeill was. Report came back: *Excellent.* An interview followed, and as a result Mr. McNeill and I spent twenty years in the closest intimacy. The last five years he was here he was my assistant, the remainder of the time the principal of one of the largest ward schools.

He is one of the best critics I ever saw in a schoolroom, and one of the most helpful. He is one of the clearest expositors of another's thoughts, too. I would rather have his judgment on the work of a ward-school teacher or principal, or on a school as a unity, than that of any other man in this country, unless it should be Mr. Frank A. Fitzpatrick's. Not only this; he, from a conversation with a school man, or from reading an author, can give an exposition of the views of either which would be in entire harmony with what had been spoken or written on every essential point.

For twenty years Mr. McNeill shared my secrets, was my adviser, and we planned and worked together as only men who have the utmost confidence in each other can do.

But there is another side to his character that does not pertain exclusively to the schoolroom or even to school management. Of all my acquaintances among school men, he is the one best qualified to make his mark as a manager of a great railroad system. His judgment is prompt, comprehensive, and far-reaching in all matters of detail—but it does not swamp him with multiplicity. In short, he is the energetic, cool, calculating business man, suave, and can readily adapt himself to surroundings whatever they may be.

In the preparation of a paper, he always works it over with the greatest care, and he is never satisfied till he has not only weighed every sentence, with cold-blooded deliberation,—almost with malice aforethought,—and then dwelt upon each word. His taste is as artistic as a Frenchman's. He is a resourceful man. He never plays all his cards in advance; neither will he show his hand to every stranger. Had he been a graduate of West Point and been placed in command of an army, he would have endeavored to outwit his adversary by strategic movements rather than pounding his men against impregnable fortifications.

J. M. Greenwood

Superintendent of Schools,
Kansas City, Mo.

XI

DISCUSSIONS

THE AGE OF GRADUATION AT AMHERST COLLEGE 1830–1900

It is the common impression that fifty years ago students graduated from college at an early age, two or three years younger, on the average, than they graduate now. It is known that some eminent men graduated at eighteen or nineteen years of age, and it is supposed that nearly all were out of college by the time they were twenty. So it is assumed that educated men who study for the professions are three or four years later getting into practice than was the case two generations, or one generation, ago.

The statistics of Amherst College do not confirm this impression. The fact is that the average age of graduates was somewhat older in the thirties, forties, and fifties than it was in the eighties and nineties. Probably Amherst is typical of other colleges in this respect. Nearly all the students came from country towns and prepared at academies or with clergymen, some entering early, some late. It may be that at colleges in or near cities, which had better schools, the majority entered younger.

Beginning with 1830, the average age at graduation is given by decades:

	AVERAGE AGE AT GRADUATION	YOUNGEST CLASS	OLDEST CLASS
1830–39	23 years 4 months	22 years 3 months	25 years 3 months
1840–49	23 years 4 months	22 years 4 months	25 years 4 months
1850–59	23 years 10 months	23 years	24 years 5 months
1860–69	23 years 6 months	23 years 1 month	23 years 9 months
1870–79	23 years 1 month	22 years 9 months	24 years
1880–89	22 years 9 months	22 years 6 months	23 years
1890–99	22 years 11 months	22 years	23 years 4 months

The oldest class was the class of 1848, the average age twenty-five years and four months. The youngest class was the class of 1890, the average age, twenty-two years.

The second table gives the percentage graduating at each

age, from eighteen to thirty-two. From 1830 to 1856 there were 1004 graduates, from 1880 to 1892 there were 998 graduates. These numbers are so nearly a thousand that the actual number graduating at each age is almost exactly the same percentage, that is, 116 graduates would be 11.6 per cent. From 1893 to 1902 the percentages are about the same as from 1880 to 1892.

	1830–1856 1004 men	1880–1892 998 men
AGE	PER CENT.	PER CENT
18	1.8	0
19	6.7	.3
20	11.8	3.1
21	13.4	17.5
22	11.9	29.5
23	9.8	22.4
24	10.8	10.4
25	9.0	6.6
26	8.6	4.2
27	6.2	2.6
28	5.2	1.9
29	2.3	.7
30	2.4	.3
31	.2	0
32	.3	.3

In the earlier period about one-fifth graduated under twenty-one years of age, in the later period only one-thirteenth; but, in the earlier period, only one-third at twenty-one, twenty-two, and twenty-three years, while in the later period more than two-thirds graduated at those ages.

The principal inference is that the age of graduation has always depended upon the time when preparation for college begins, rather than on the amount of time required for preparation. In the earlier period students entered at all ages from fourteen to twenty-six; in the latter period more than two-thirds entered at seventeen, eighteen, and nineteen years. Formerly preparation was made at academies or under private instruction. Many did not begin till they had earned some money or their fathers could afford to send them to school. Others began Latin and Greek at the age of ten or eleven years. The former entered at any age, the latter at fourteen or fifteen. At present and for the last twenty-five years nearly

all go thru the public schools. They cannot begin the study of languages until they are in the high school at fourteen, fifteen, or sixteen years of age, and since four years for Latin and three years for Greek is the prescribed time for all, they cannot enter college until four years later. Few boys are sent to private and endowed schools until they are fourteen or fifteen years old. The study of languages should begin two or three years earlier than it does begin, when memory retains forms and words most easily. Those who are going to college should begin Latin, Greek, or modern languages at the grammar school. In a very few schools this is allowed. If it is desirable that students finish professional training at twenty-five, and so leave college at twenty-one or twenty-two, it is not necessary to cut college in half, but rather to begin preparation for college earlier. In my opinion two years are lost in our public-school system for the large numbers who are going to college by the hard-and-fast rule that languages shall not be taught in the grammar schools. There would be no additional expense, but rather a saving by teaching languages before the high school, since all who are going to college would be thru two years earlier. Seventeen or eighteen is young enough to enter college, and this would be easy if languages were taught in the last years of the grammar school.

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THE INFLUENCE OF SOCIETY ON THE COLLEGE

It is a common charge against college students that they regard themselves too seriously; but this is not necessarily an adverse criticism. At least this may be said: with most people youth affords the last chance for such a regard. The sense of humor developed in later life, and the mature perception of proportions, are not conducive to either sobriety or exaltation in estimating one's personal value; hence this redundance of youth is far more likely to excite a sympathetic reminiscence than a critical judgment. But the students are not the only people connected with colleges against whom this charge may

be brought. Following the trend of educational progress exhibited in inaugural and anniversary speeches, reports of conventions, and contributions to educational journals, one can hardly fail to be impressed with the seriousness with which college officials view their duties, their prerogatives, and the field of their labors. It is one of the most encouraging signs of progress; it casts into the future a light that may aid in dissipating the clouds threatening social and political tempests. Yet perhaps even here there is some danger of redundance, and while the college most properly reflects on its influence on society, it may unduly minimize or entirely ignore the influence of society on the college; and like those self-abnegating individuals who make their nearest relatives selfish by the excess of their unselfishness, it may render society indifferent to responsibility by the zeal with which it seizes its share of the common burden.

To take one among many examples: we hear and read much of the formative influence of the college on character, and most of the reflections on this subject seem to assume that the youth arrives in college considerably less conscious of his previous experiences than in Wordsworth's "child among his newborn blisses." This theory, like many another pleasing fiction, is satisfactory only while it is not subjected to examination. A very slight reference to fact shows the relative importance of the college to be less than its administrators seem inclined to admit. We recognize the sagacity of the Jesuits' alleged claim that if they can have the first seven years of a child's life they will send him back to the world assured of their hold upon him. But society, thrû its most operative and effective agency, the family, holds the child for eighteen or nineteen years before consigning him to the college, and during most of this time other powerful agencies, the church and the school, are molding and developing his character. Every college teacher is familiar with the experience of watching a new class file past his desk. He quickly recognizes the sober, the volatile, the diffident, the stupid; and as quickly he can detect the product of the illiterate and the cultured home. The brilliant member of the ignorant family, and the fortunate possessor of inherited intellect, are not much more difficult to recognize than

the boy with one arm, or the girl with red hair. When four years later the teacher watches them file past him for the last time, he generally finds that in the class the relations are about the same as at first. The actual standard of each student is higher, and hence the outlook broader; but those who were illiterate are still comparatively illiterate, the ignorant still comparatively (if, haply, not absolutely) ignorant, the cultured still above the average in culture. Of course there are exceptions. We all know and honor beyond our power to express those men and women who have refused to be subservient to the law of heredity, who have beaten down the barriers of environment, who have wrested unto themselves learning and culture and wisdom in spite of their inheritance and training, but they are the exceptions. Moreover, they have purchased their emancipation at a cost so fearfully great that they shrink from the possibility of its repetition, and they give magnificently of their money and time and strength to make easy for others the struggle that for them was incredibly hard. The fact remains a fact, that from homes of learning and culture come students inclined to learn and receptive of culture, from homes where virtue is practiced and honor reverenced come virtuous and honorable students. The best college is the one with the best students, and the best students are from the best homes, and if society demands from the college good products it must provide good material. The furnishing, still more the creation, of material is beyond the province of the college; its duty is to make the best of that which is provided, to foster and develop existing good; to eradicate, if possible, at least to prevent the spread of existing evil; to sow broadcast its seed, knowing that the springtime will be delayed and the harvest beyond its ken. And if the result shall be disproportionate to its effort, or even signal failure along the line of its greatest endeavor, then not alone, but with the family and society, shall the college bear the blame.

It is to be remembered, further, that society does not relax its hold on the youth during those years when ostensibly his chief relation is to the college; altho some teachers and administrators seem to imagine that theirs is the only influence to which he is subjected. This theory held better during the

centuries when universities were practically lay monasteries, inclosed by walls within which it was customary to lock the students cozily every night, and then to count noses every morning. Even in those days, if one may judge from reports of proctors, university statutes, and civil proceedings, human nature asserted itself, and youth not only felt, but responded to the claims of society beyond the quadrangle. To repeat even the partial realization of this theory it would be necessary to abolish such incongruous details as vacations, newspapers, railways, clubs, theaters, hotels, and a multitude of diverse expressions of the social instinct. The college youth is really as accessible to the different currents of social life as is the youth outside college, altho it is true that owing to restricted interests he is not conscious of making as direct or strong a response. No ornamental fence or memorial gate separates the college from the world, and both on and off the campus young men and women are subject to the powerful and incessant influence of society. How far that influence often counteracts the best that the college can do, how entirely the line upon line and precept upon precept are effaced by one successful example of the contrary, how difficult is the task of keeping afloat on college towers the banners of truth and light and virtue while the powers of falsehood and darkness and vice raven at the very gates, only those know who live and labor in that presumably shielded, but really exposed, portion of the world known as the college.

When society not only concedes that might makes right, but generally considers the two as synonymous, when means of advance in high as in low estate are restricted to the equally vigorous alternatives *push* and *pull,* when violation of the law excites retribution not by the law, but by the force and arms which it is the purpose of the law to supersede, when the war spirit flashes into flame, shall we wonder that athletics rule the colleges? The crowded seats, the heavy betting, the detailed reports during the autumn games argue intense interest in football on the part of the colleges; but even more they indicate the interest of society in this form of physical force. How far would mere college excitement go, unaided by the approbation and money of the public? For ten days before a "great" game anyone wishing information about really

important political and diplomatic affairs must resort to stray paragraphs in odd corners of the paper, while the broadsides are devoted to full-length portraits of young athletes, presumably nice boys in the process of turning into scholars and gentlemen, but in clothing, attitude, and expression looking more as if the chain-gang were their ultimate goal; and the reader becomes impressed with the fact that society must like this sort of thing, else the press would not provide it. Once at the classday exercises of a university eminent for years and learning, reference was made to a member of the class who had gained the highest record of scholarship in the history of the university. He was a pleasing youth of winsome personality. His name was greeted with a thoroly courteous amount of applause; evidently it was not a bad thing to have such a man in the class. Later allusion was made to another member, "the best man who ever led an X. team to the gridiron." Immediately there was a storm of shouting, stamping, gesticulating; here was the hero, the man who had done something. The audience rocked and reeled with enthusiasm, while the class figuratively, and as many of the boys as could reach him literally, hugged to their hearts the most glorious member. A serious comment on the college? Granted; but as serious a comment on the society that sent those boys to college and supported them while there.

Nor is it strange that, in a country more gravely threatened with a plutocracy than has been any nation of Christendom, the democracy of letters should not be apparent in the colleges. Year by year as the power of wealth increases and the standard of material life rises and the gulf widens between rich and poor, so year by year simplicity and economy decrease in college life. The lot of the poor student grows constantly harder. Often he could hold his place if he could once get it; he knows that, and those who helplessly and sometimes hopelessly watch the struggle know it; but how can he get his place? If he can control his time and has exceptional ability in brain or brawn or voice he can win recognition; but if he is merely "an all-round good fellow," and especially if he has to convert either time or ability into money he remains unknown, and while he acquires knowledge acquires little else. To get

wisdom and to get understanding are the chief ends of the college course; but there are other things that the heart of youth desires, sympathetic contact with one's peers, influence with one's kind, fame in one's place and generation; and every decade these are purchased with a larger expenditure of money. It is the way of the world, the inevitable influence of society on the college. With a millionaire's quarter in every large city why not a millionaire's club in every large college? With the whole cost of social and domestic entertainment enormously enlarged in the last generation, how can college dances and class suppers remain the simple affairs they were a generation ago? That "the life is more than meat" it is the mission of the college no less than of the church to teach; but even with an ideal corps of instructors the inculcation of the corollaries of this truth would be rendered well-nigh ineffective by the constant contradiction and opposition of those known as "practical men of affairs." Not in physics alone does the angle of reflection equal the angle of incidence. If a materialized and mercenary society, reckoning values in dollars and cents, projects its children into college, from college it will receive young men and women who likewise think in terms of money.

The impurity of college politics, the farce of class elections, the deals between fraternities and societies, make a sad chapter in college life to anyone who reads it seriously, and perhaps it should be read seriously more often than it is. One need not be surprised that these youths who have cleverly and effectively bribed and cajoled and extorted should emerge into political life accomplished wire-pullers after a little training in finesse. The amazing ingenuousness of college political dodging is humorously and morally its saving salt. From another point of view one does not wonder that they should understand and practice the tricks that are in constant use thruout society. Not from municipal and national politics alone do they make their bungling copies of the delicate art of manipulation; but from the unpublished reports of societies and conventions, from the alleged motives for legislation, from the open deals of business, even from the actions of churches and councils and synods they may learn their lesson. Certain means attain certain ends; they are approved and almost legalized by usage. Those who oppose them are commonly men who have not ad-

vanced, who have even fallen behind in the race of life. Common sense would seem to dictate attention to these recognized means of efficiency.

At any rate the game is worth the fun; and if you sometimes lose the sense of proportion, and fight for a fraternity as hard and as unscrupulously as for a party, and think the world will go as awry with the wrong man wielding the marshal's baton as with the wrong man occupying the White House, isn't it all by way of preparation for the big game outside?

Society has a right to look to the institutions of higher learning and life for its leaders; it would be a doom of woe to the college if the demand should ever be relaxed. The Church must draw to itself the best that the college produces if the two are to lead in the war of righteousness. The stream cannot be expected to rise higher than its source; and the Church cannot be kept pure and noble and vigorous by that which the college sends it unless in its turn it sends to the colleges and while they are there keeps its hold on youths who honor and love the Church as the most pure and noble and vigorous manifestation of society. It is true that more than once great religious and ecclesiastical reforms have originated in the university and have forced the Church into vitality; and such things may happen again if the Church sinks low enough. But generally these two rise and fall together; the spiritual level is maintained. If the Church cannot hold the children, if it allows the youth to roam thru long Sundays seeking interest and diversion, or if it furnishes these desiderata without spiritualizing power, if it inculcates no loyalty to the institution, no habit of worship, then those necessarily temporary and fragmentary substitutes for the regular offices of the Church which lie within the possibility of the college to furnish, must needs prove but moderately effective. With the college the Church may share, but on the college it may not place, the responsibility if that institution, originally designed to be a nursery for the clergy, seems to deny its birthright and sends annually to other professions and business hundreds of its ablest and sturdiest, while the Church bemoans her poverty, and those that sit in darkness see not yet the light.

Elizabeth Deering Hanscom

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XII

REVIEWS

School administration in municipal government. By FRANK ROLLINS, Ph. D. (Columbia University Contributions to Philosophy, Psychology, and Education, Volume XI: No. 1). New York: The Macmillan Co., 1902. 106 p. 75 cents.

This study, while commendable as a dissertation submitted for the doctor's degree, is, in the judgment of the reviewer, radically wrong in many respects, both as to standpoint and as to conclusions.

The comparison on page 13 of the conduct of affairs in school districts and small towns and cities as compared with large cities, while perhaps generally held, is in my judgment wholly incorrect. The administration of school affairs and municipal affairs is less efficient, less economic, and more corrupt in the small districts and towns than in the large cities. The defalcation in the small towns in New England and the waste of public money are so great as to challenge comparison with that of even Philadelphia or New York.

The writer's inference, on page 16, that persons who are property-holders are better qualified than others to direct and pass upon questions of administration in cities, is both misleading and incorrect. The fact that the State was the original unit of government in this country, and that every State constitution has a chapter on education in it, is no reason why the State should dominate and control municipal school administration. This doctrine is pernicious, and is really never advocated in this country except where the political complexion of a city like Boston, New York, St. Paul, is antagonistic to the dominant political sentiment in the State. Massachusettts is the home of government by State boards, and there are so many of them that even the new Statehouse has not sufficient capacity to domicile them properly. It is the common consensus of educated opinion that they are incompetent, that they serve as an asylum for barnacles,

and that they are a distinct hindrance to the cause of good government. Massachusetts represents Herbert Spencer's dictum "that in this age we have escaped the tyranny of kings and placed ourselves under the thraldom of legislatures and parliaments and state boards and state control."

It is not true that the moral life of the city is any worse or any more reprehensible than the rural life or the life in small towns. There is of course less hypocrisy in the city, less slandering of neighbors, and much less worship of material things.

On page 18 the writer gives as an additional reason why the State should virtually control or shape the school administration in cities, that the State appropriates large sums of money annually for the support of the schools. But the veriest tyro in the question of school finance ought to know that the cities contribute towards this annual distribution by the State infinitely more money than they receive back; in other words, the cities, instead of being recipients at the hands of the State, really contribute under such circumstances very largely to the support of the rural schools. On general principles the writer is correct in desiring to separate the school administation from other departments of the municipal government; but in New England, where such separation has not yet been made, I must admit that, with a very great prejudice against the custom of relying upon boards of aldermen for school appropriations, no visible evil arises from that habit.

I should enter my emphatic protest too to the writer's quotation: "As is your school board, so are your schools," This statement is such an inversion of the real condition and inference that I am amazed that someone has not fitly characterized its flippancy in the past. There is nothing in the statistics presented on pages 24 to 31 to indicate that communities are in any way tending towards accepting the principle of having boards appointed by the Mayor rather than by election. It is also not true that educational experts as a whole, or by any large majority, favor such a plan. I presume here the author has been biased by the excellent results obtained generally in New York City, and that

he is not sufficiently familiar with conditions in St. Paul, Chicago, and other places to know the shortcomings of such a system. I think the writer is in error, too, in assuming that the appointment of such a board by the Mayor towards the end of his term of office would secure better results than to take the matter up normally as each emergency arose.

When the city of St. Louis separated from the county in the early eighties there was a clause in the charter requiring the Mayor to make his city appointments near the end of his term of office, and as the Mayor was not eligible for reelection this clause was thought by many reformers to be a panacea for some of the ills of party administration; but after an experience of ten years this plan was abandoned without any protests from its friends. I do not believe that politics as such cuts any figure in the maladministration of affairs in school boards in cities. It is school-board politics that causes the trouble.

Underlying Mr. Rollins' thesis is a general distrust of the people and their consolidated wisdom or unwisdom, and a general distrust of party administration in general, which last seems to be the common heritage of all reformers. Bodley's *France* would be most excellent reading for some of these gentlemen, for Bodley shows quite clearly the effect of the lack of party government and the presence of a large number of doctrinaires and professional reformers in the French parliament.

On page 37 the author quotes Mr. Pickard's statement approvingly, "that there is no city in the United States where the work of the board is not done by less than ten men." Of course this is a truism. In the House of Representatives at Washington, with 380 members, the real work of legislation is done by forty men. In the English House of Commons, of 688 members, the real work of legislation is done by fifty men, and thirty-five constitute a quorum to do business. I refer to this because I think the statement of Mr. Rollins is meant to bolster up the idea that a board of education should be a very small board.

The writer is also unfortunate in his implied indorsement

of the custom which is growing up in some places, of paying members of the school committee for their services. He gives his approval to the Washington plan of paying so much a session, which is in my judgment by far the poorer plan of the two cited.

His citation, with approval, from Albert Shaw relative to the school commissioners of Paris, as well as his indorsement of the German method of management, is unforunate, and I am sure does not meet with the approval of the best thinkers on this subject. On page 52 the first sentence is a pronounced error, for there is not a prevailing tendency to place the business interests of school administration in the hands of the city government. This has always been the custom in New England and in some parts of New York and Pennsylvania, but the tendency even in these localities is in the opposite direction.

On page 57 the intimation that there is a need of preventing corruption in the business of purchasing supplies is unfortunate, and not warranted. What is really needed is competency and business sense. All those who have any dealings direct with persons who have charge of the purchasing of supplies for schools know that the instances of corruption are so few as to not be worth mentioning.

It is a noteworthy fact in the history of the superintendency in American common schools that the superintendents who are elected annually average a greater security in their positions than those who are elected for longer terms. The three longest terms of service in this country are those at Easton (Pa.), St. Joseph (Mo.), and Decatur (Ill.); representing fifty, thirty-eight, and forty-two years of service respectively. I myself am a believer in freedom, and I am sure that a more secure tenure would be had by electing a superintendent to hold his office at the pleasure of the board than by any of the present or proposed plans.

In relation to text-books and methods of adoption it may be said that it is very doubtful whether the New York City plan works satisfactorily. The fact is that under it almost every book, good, bad, and indifferent, is put upon the list and used in the schools somewhere and by somebody.

It would be a very bad thing, too, in a school system if teachers and other employees were compelled to make their complaints of anything in the system or in their work thru their immediate superior officer. This system is probably necessary in the navy and in the army, but it ought not to be thought of for a moment in a school system.

The writer is not fortunate in his paragraph on the loyalty of teachers. Teachers should be loyal to the schools, but they are not necessarily constrained to be loyal to the superintendent in the sense that I understand the writer. I never have believed in either the wisdom or the possibility of keeping a superintendent's criticism of a teacher, made to the board, a secret from that teacher and her friends. I think, indeed, that she has a right to know what the superintendent thinks and says about her work, but that no other teacher or employee should have this knowledge. The object of the executive meeting of the school committee on questions of appointment and dismissal of teachers is not at all to protect the superintendent, but rather to protect the teacher from unnecessary public notoriety.

If more space were at my command I should praise Dr. Rollins' treatments of instruction and discipline, and particularly his paragraphs upon the school and the community, which have gone far to convince me, with my strong prejudices against the possibility or advisability of doing such things, that I have been radically wrong in my views.

F. A. F.

The Physical geography of New York State—By RALPH STOCKTON TARR, professor of dynamical geology and physical geography at Cornell University. The Macmillan Company, London and New York, 1902, xiii+397. $3.50 net.

The development of scientific physiography during the last decade and a half has naturally led to the appearance of a series of semi-popular volumes devoted to what may be called regional physiography. The way was opened by Marbut in his volume on Missouri.[1] Other State volumes have fol-

[1] *The Physical features of Missouri*, Reports Missouri Geological Survey, vol. x., 1896.

lowed from Salisbury on New Jersey[2] and Wisconsin,[3] from Abbe on Maryland,[4] and finally from Professor Tarr we have the volume described above. The essential requisites of a popular volume on the physiography of a special region are that the facts and principles be accurate, that they be logically, clearly, simply, and appealingly presented, that the illustrations be numerous and well reproduced, and that the book shall be usable by the inexpert but interested teacher who desires to advance herself and her pupils beyond the bounds of the common text and course of study. A special volume such as Professor Tarr's upon New York should appeal primarily to the best teachers, because it is only by working with the oncoming generations that we can hope to advance any subject in popular estimation and usage.

It is necessary, therefore, in such special volumes to give an elementary discussion of the general principles of the science before passing to a detailed consideration of the region in hand. In Professor Tarr's volume this general discussion is so scattered thru the book that there seems to be no well-arranged and well-thought-out order to the book. In the original articles, which were written for the Bulletin of the American Geographical Society, there was some excuse for a loose connection between the chapters, because the subject grew with the writing. In revising the articles for presentation in a single volume the author would have done well to have arranged them in a logically connected series, which has not been done.

In dividing the State into physiographic regions Professor Tarr unfortunately follows a geological rather than a topographical basis of classification. Therefore his provinces are not clearly defined and are certainly not provinces that are in harmony with the generally accepted provinces of the Northern Appalachians, of which New York is a part. Furthermore, the provinces outlined in the opening chapters are not

[2] *Physical geography of New Jersey*, vol. iv. of the Final Report of the State Geologist, 1898.

[3] *Geography of the region about Devil's Lake and the Dalles of the Wisconsin*, Bulletin No. 5, Wisconsin Geolgoical and Natural History Survey, Educational Series, No. 1, 1900.

[4] *A general report on the physiography of Maryland*, Maryland State Weather Service, vol. i., 1900.

used, as they logically should be, as a basis of discussion in later chapters.

The best and most helpful chapters are those devoted to the Great Lakes and Niagara. Here we have an excellent summary of the evolution of thought concerning these two areas whose complete history is by no means as yet untangled.

In these chapters we have illustrated, furthermore, the one striking and unsurpassed excellency of the book—its bibliography. Professor Tarr has long had an enviable reputation for his ability to construct exhaustive and admirable bibliographies. In this book we find a most excellent bibliography, which should be consulted as the first source of reference by all students and investigators of the geographical history of New York. The author could have improved the bibliography and made it more generally serviceable if, instead of scattering the complete titles at the bottom of pages, he had grouped all titles at the back of the book, and had referred thereto in his footnotes by author and date, as is done in the best recent scientific publications.

The illustrations are very numerous, and include maps, diagrams, and plates. Many of the illustrations could have been of New York, rather than of remote localities, to the great profit of the book. As a whole, the illustrations are wretched in execution, which is very unfortunate. A plate printed in so reduced a form, or in such a blurred manner, that it tells nothing, even to one more or less informed on the subject, is a source of confusion and distress to the lay reader.

On the whole, therefore, the book is a disappointment. It cannot fulfill its expected mission, because it is not effectively usable by the inexpert student or teacher. This is to be regretted, because a manual devoted to the physical geography of New York has long been needed. There is still a need for a book that shall be accurate, interesting, practical, and of such a price that it can be used by the many rather than the few. As a source of reference, however, Professor Tarr's volume should be in all public and secondary school libraries, and in all the private libraries of workers in geography.

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